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Analysis of gene expression in squamous cell carcinomas

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**Help-seeking for ADHD: the role of causal attributions and knowledge in
determining whether parents and teachers seek help for ADHD.**

Thesis submitted to the school of Psychology: Clinical Section,
University of Leicester
in partial fulfilment of the degree of
Doctor of Clinical Psychology.

Johan Horton

June 2006

Declaration.

This thesis constitutes original work by the named author. It has not been submitted for any other qualification or to any other institution.

Acknowledgements

I would like to thank my two supervisors, Keith Turner and Geoff Thorley, for all their help and guidance throughout the study, and to the teachers, parents and head teachers who agreed to participate.

I would also like to thank Dr John Bankart for all of his invaluable statistical advice and his patience in supporting me with the results.

Sincere gratitude also goes out to all my family, friends and my partner, Nick, for their encouragement and support.

<u>Word count.</u>		
	Excluding references	Including references
Section 1: Literature review	8,010	10,298
Section 2: Research report	12,020	13,789
Section 3: Critical appraisal	4,387	4,608
Total (excluding references and appendices): 24,417		
Total (including references and appendices): 34,748		

The literature review (Section 1) has been written in accordance with the guidelines of the Journal of Clinical Child psychology and Psychiatry (see Appendix A). For consistency of the thesis, referencing will follow BPS guidelines.

The research report (Section 2) follows the general style of the British Journal of Psychology, but with an allowance for full reporting of the work completed. Referencing will also follow BPS guidelines

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Help-seeking for Attention Deficit Hyperactivity Disorder (ADHD): the role of causal attributions and knowledge in determining whether parents and teachers seek help for ADHD.

Johan Horton

Abstract.

Literature Review.

Past surveys suggest that there is a low use of specialist services and an underdiagnosis of ADHD (Meltzer *et al.*, 2000). Understanding the variables that facilitate or prevent help-seeking occurring is considered to be crucial. This review sets out to examine the role causal attributions play in determining whether parents and teachers seek help for a child displaying symptoms of ADHD. Attribution theory is applied to this area to present a conceptual model in attempt to understand the psychological factors influencing help-seeking for ADHD, highlighting the need future research.

Research Report

Objectives: To examine the role causal attributions and knowledge have in predicting whether parents and teacher seek help for the core symptoms of ADHD.

Method: The study recruited 131 participants, 63 parents and 69 teachers. Each completed a demographic questionnaire, the Knowledge of Attention Deficit Disorder (KADDS) and were presented with written descriptions of a child displaying inattentive and hyperactive-impulsive behaviours for which they rated on the causal dimensions of locus, controllability, globality and stability and the likelihood that they would seek help.

Results: Perceptions regarding the problematic nature of ADHD behaviours predicted whether parents and teachers sought help. Teachers were found to perceive hyperactive-impulsive behaviours as more problematic and in need of help, whilst parents perceived inattentive behaviours as more a problem and requiring of help. Causal attributions had a significant role in predicting help-seeking.

Conclusions: Identification of the role the perceptions and attributions parents and teachers hold towards the causes of ADHD have important clinical implications not only in the recognition of this disorder and subsequent decisions to seek help, but also for diagnosis and treatment of this condition.

Critical Appraisal

The appraisal details a personal account of the research, from the planning stages to implementation and writing up. An exploration of this journey and subsequent learning outcomes are discussed.

SECTION 1: LITERATURE REVIEW

A Social-Cognitive Model of Help-Seeking: A literature review examining the role of causal attributions in the help-seeking process for ADHD.

Abstract.

Background: Past surveys examining the mental health needs of children and adolescents in the United Kingdom have found that there is a low use of specialist services and an under-diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) (Meltzer *et al.*, 2000).

Aims: The article reviews the process of seeking help for ADHD and explore the role causal attributions play in influencing the help-seeking behaviours, in particular the recognition and decision to seek help, of parents and teachers for ADHD symptomatology. The article also attempts to provide a conceptual model, based in a psychological theory, of the help-seeking process for ADHD.

Findings: Research has highlighted the influential role parental perceptions and causal attributions play in facilitating or preventing help-seeking for ADHD. The causal attributions teachers' hold for ADHD behaviours has been relatively ignored. The current review also highlighted the role of other factors, such as knowledge of ADHD, in determining whether help is sought.

Conclusions: Research into this particular area is scarce and the current review has highlighted significant gaps of knowledge and the need for future research into help-seeking process for ADHD.

1. Introduction.

1.1. Overview

The main purpose of this review is to explore the role causal attributions play in influencing parents and teachers decisions to seek help for Attention Deficit Hyperactivity Disorder (ADHD). The structure of this review will follow a journey through which the help-seeking process for both general child mental health problems and ADHD will be initially explored. An attribution based theoretical model, which has been applied to the area of ADHD, will then be introduced and applied to the area of help-seeking. Firstly the review will give an overview of the clinical concept of ADHD, it's definition and prevalence in the child population.

1.2. Attention Deficit Hyperactivity Disorder (ADHD): Definition and prevalence.

Attention Deficit Hyperactivity Disorder (ADHD) is the term used by the American classification system: Diagnostic Statistical Manual-Fourth Edition - Text Revision (DSM-IV-TR) (American Psychiatric Association, 2000). DSM-IV-TR defines ADHD as being characterised by three core symptoms: inattention, impulsiveness and hyperactivity (APA, 2000). In Europe, the International Statistical Classification of Diseases and Related Health Problems: Tenth Edition (ICD-10) (World Health Organisation, 1992) uses the term 'hyperkinetic disorder' instead of ADHD. Although these two classification systems use different terminology to categorise and diagnose the supposedly same clinical concept, each adopts almost identical criteria for the

identification of inattentive, hyperactive and impulsive symptoms (Schacter & Tannock, 2002).

Over the years ADHD has been the source of controversy. Arguments regarding whether ADHD is just a research-generated concept (Timmi & Taylor 2004), whether it is underdiagnosed (Kewley, 1998), or, conversely, confused with other conditions and over diagnosed (Orford, 1998) have been proposed. The controversy regarding whether ADHD is a clinical entity is fuelled by prevalence rates being found higher amongst families from the low socio-economic strata (SES) (Biederman *et al.*, 1995), and within western cultures, such as the United States of America (USA) and the United Kingdom (UK) (Baumgaertel *et al.*, 1995; Graetz, 2001). It is argued that the demands placed upon children by western society and poverty, such as the need for compliance, competition, and achievement (BPS, 2000), poor housing and the unavailability of parents because of economic pressure (Diller, 2002), supports and encourages the development of a short attention span (Kindswatter, 2005).

Rises in prevalence rates across countries have been blamed on pharmaceutical industries, accused of reinforcing the biological aetiology of ADHD by promoting the use of medication and funding practically all of the research carried out within the area of ADHD (Baldwin, 2000; Diller, 2000; Diller, 2002). The acceptance of funding from pharmaceutical companies by researchers raises the question of whether studies conducted in this clinical area could be considered scientifically independent and valid (Diller, 2002).

In the UK, ADHD, as a clinical entity, is considered to be largely unknown by clinicians and members of the public (BPS, 2000). Prevalence rates are reported to be lower in the UK (Spren *et al.*, 1995), with a 20-fold variation in diagnosis rates between the UK and the USA being found (Taylor & Sandberg, 1998). Past surveys examining the mental health needs of children and adolescents in the UK have found that there is a low use of specialist services and an under-diagnosis of ‘ADHD’ (Meltzer *et al.*, 2000). To begin addressing this problem it is essential to understand the factors facilitating or preventing the help-seeking process taking place.

2. Aims and Search strategy

In examining the help-seeking process for ADHD, this review aimed to identify the factors that influence both parents’ and teachers’ recognition of ADHD and their decisions that help is required from specialist mental health services. Due to the limited number of studies within this area, studies were also located that examined the help-seeking process for ‘general’ child mental health problems.

A literature search for the current review was conducted using the following electronic databases: EBSCO; Ovid; Ingenta; ISA web of knowledge; BIDS; Cochrane; Swetswise; Wiley-Interscience; Blackwell-Synergy; PsycArticles and PsychInfo. Journals were also gathered via a ‘snowballing’ technique from the articles obtained. The following search terms were used to gather the appropriate research studies: *help-*

seeking behaviours; knowledge of ADHD; attitudes towards ADHD and, causal attributions and ADHD¹.

3. Help seeking for child psychopathology and ADHD.

3.1. Service usage for child psychopathology.

A large proportion of children with mental health needs do not receive the necessary and appropriate services (Bussing, Zima *et al.*, 1998). The discrepancy between the number of children with a mental disorder and the proportion that seek help from specialist mental health services has been a concern for policy-makers and clinicians in the field of child psychopathology (Verhulst & Van der Ende, 1997). Pathways to specialist services for young people are unique, as access to these services often occurs through the interactions of adults who perceive them to be in need and from observations of the child's performance both within the home and school environment (Poduska, 2000). Therefore, this suggests that parents and teachers are important people in initiating service use for children (Pavaluri *et al.*, 1996; Poduska, 2000). However, research suggests that many parents are unwilling to bring their child's mental health problems to the attention of service providers (McCune *et al.*, 1984).

3.2. Help-seeking pathway models for “general” child psychopathology.

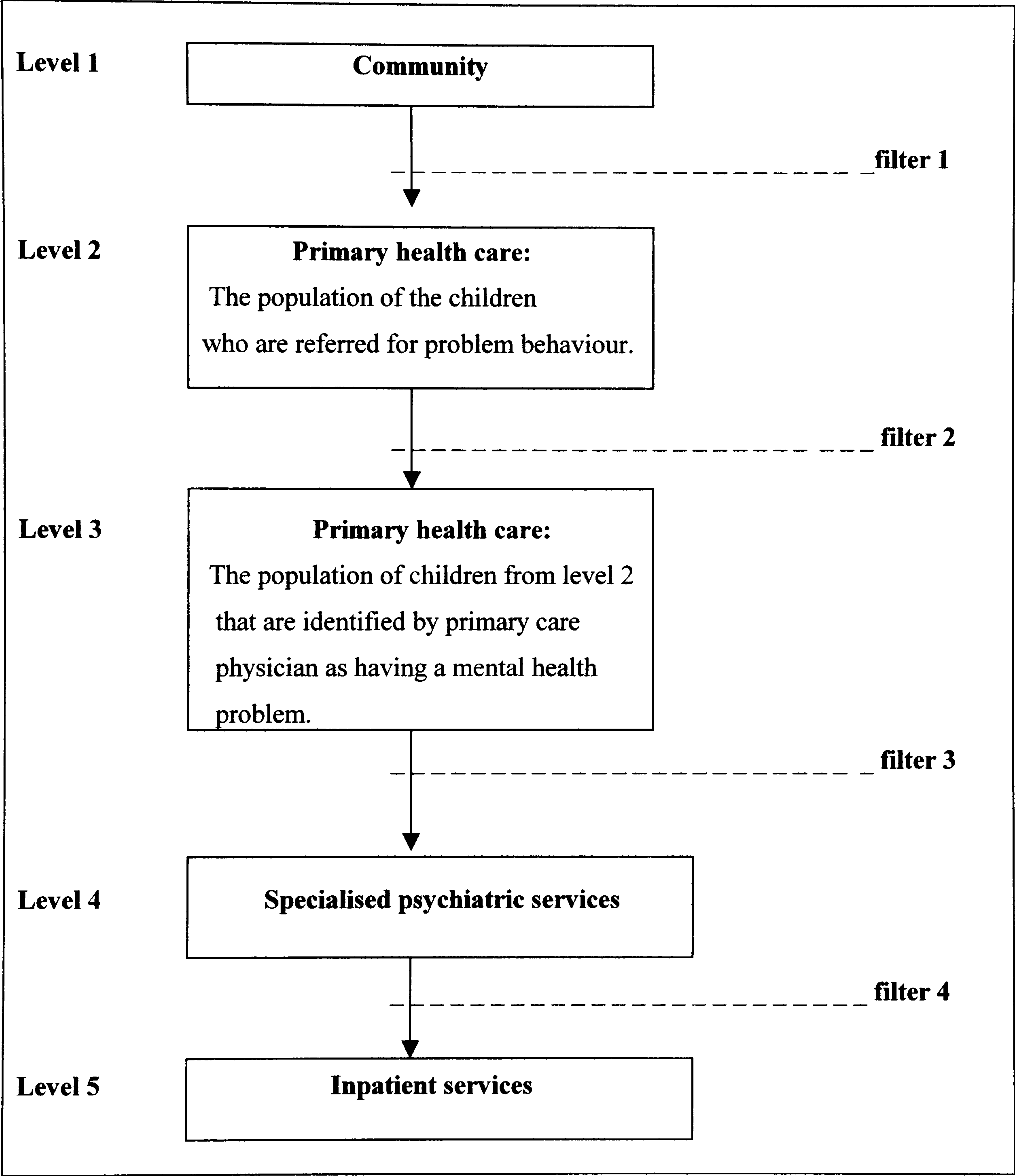
Children rarely refer themselves to specialist mental health services; it is usually parents and teachers who decide whether or not a child requires specialist help (Weisz *et al.*, 1991). Whether a child receives mental health interventions may depend upon a

¹ Literature search conducted between May 2004 and May 2006.

complex process that can be explained by models that take into account help-seeking behaviours (Bussing, Schoenberg *et al.*, 1998). For the child population, help-seeking is defined as “*seeking assistance from mental health services, other formal support services for the purpose of resolving emotional or behavioural problems*” (Sbrenik *et al.*, 1996, p.210). Help-seeking pathway models propose a series of links between the initial recognition of a child’s mental health problem and eventual use of mental health services (Bussing, Gary *et al.*, 2003). In children, initial recognition of a mental health problem by parents and teachers usually serves as the catalyst for the first step of this process (Bussing, Gary *et al.*, 2003).

Models of help-seeking process have been developed to map the sequence an individual goes through before accessing help for a mental health problem. For children, help-seeking pathways models have been adapted to encompass the role of the parents, other family members, the school system and the community in the help-seeking process (Costello *et al.*, 1998). The model most commonly used and applied in research is Verhulst and Koot’s (1992) model, an adaptation of Goldberg and Huxley’s (1980) ‘Levels and Filters Model’ for adult psychopathology, used to describe the pathway between community and specialist mental health services for child psychopathology. As shown in figure 1, to move from one level to the next there is a need to pass through four ‘filters’: Filter 1: parental recognition and decision to seek help for their child’s behaviour; Filter 2: recognition of mental health disorders by the general practitioner (GP); Filter 3: GP’s decision to refer on to specialised mental health professionals, and lastly Filter 4: the professional’s decision to diagnose and treat or refer on for inpatient/outpatient treatment.

Figure 1. Verhulst and Koot’s (1992) ‘levels and filter’ model for help-seeking behaviours in child psychopathology.



3.2.1. Factors influencing help seeking for child psychopathology.

A majority of the research investigating the help-seeking behaviours for child psychopathology has mainly focused on the factors influencing filter 1, parental recognition and decision to seek help, of Verhulst and Koot's (1992) help-seeking model (p.9). The results of studies examining the variables associated with this filter have tended to be split into child and parent factors. The following factors have all been shown to increase or prevent parental recognition and decisions to seek help for childhood problems.

Child factors increasing parental recognition and help-seeking:

- a) Comorbidity: Review studies have found that parental recognition and decision to access help increases when two disorders were present (e.g. ADHD and conduct disorders) (Zwaanswick *et al.*, 2003).
- b) Externalising problems: Parents have been found to be more likely to seek help if their child was displaying conduct problems, such as aggression, than internalising disorders, such as depression (Zwaanswick *et al.*, 2003).
- c) School related problems have been found to increase parental help-seeking, highlighting the important role teachers play in the detection of childhood disorders (Zwaanswick *et al.*, 2003).
- d) Age and gender of the child: Research has shown that more help is sought for boys than girls (Verhulst & Van der Ende, 1997). Studies also indicate that more help is sought for boys in childhood and early adolescent, whilst more help is sought for girls when they are in late adolescence (Zwaanswick *et al.*, 2003).

Parent factors increasing parental recognition and help-seeking behaviours:

- a) Severity of the problem: Parents have been found more likely to seek help when they perceive the child's behaviour as more severe and persistent (McMiller & Weisz, 1996; Zwaanswick *et al.*, 2003).
- b) Parental beliefs, or "attributions" about the causes of the child's behaviour have been found to influence whether help is sought (Pavaluri *et al.*, 1996; Zwaanswick *et al.*, 2003).
- c) Family stress has been found to increase the likelihood that parents seek help (Zwaanswick *et al.*, 2003).

Factors preventing help-seeking:

- a) Lack of knowledge, about childhood mental health problems and interventions, has been considered a barrier to help-seeking (Pavaluri *et al.*, 1996). Many parents have been found to lack knowledge about what mental health professionals do and where to access help (Richardson, 2001).
- b) Distress threshold of the parents (Verhulst & Koot, 1992).
- c) The perceptions of the parents regarding whether the child's difficulties are problematic or considered abnormal for his age have been found to prevent help being accessed (Verhulst & Koot, 1992).
- d) Beliefs: Holding uninformed and negative attitudes about childhood problems, i.e. "that the problem will get better by itself", has been found to stop parents accessing help (Pavaluri *et al.*, 1996).
- e) Institutional barriers, such as long waiting lists, have been to prevent people from accessing specialist child mental health services (Andersson, 2004; Attride-Stirling *et al.*, 2001; Rawlinson & Williams, 2000)

- f) Stigma: Many parents have been found to be concerned about accessing help due to the fear that people may find out (Richardson, 2001). Myths held in society, which suggests that faulty parenting causes childhood psychopathology, has been found to prevent parents accessing help for their children (Hinshaw, 2005).
- g) Culture: Culture is considered to play an important role in whether a behaviour is defined as a 'mental health problem' or not, influencing both parental recognition and decisions to seek help (Cauce *et al.*, 2002). African-American and Latino parents have been found to be less likely to seek help from mental health professionals for their child's difficulties than Caucasian parents, but more likely to seek informal help from friends and families (Bussing *et al.*, 2005; McMiller & Weisz, 1996). UK studies have also found White-British mothers more likely to access help from Child and Adolescent Mental Health Services (CAMHS) than Pakistani mothers (Stein *et al.*, 2003). Lower rates of help-seeking in minority-ethnic cultures has been attributed to the culturally diverse explanations given for the causes of mental health problems and culturally acceptable ways to deal with them (Cauce *et al.*, 2002).
- h) Socio-economic status (SES): In countries, such as the Netherlands, where health care is freely available, no association has been found between SES and help-seeking (Verhulst & Van der Ende, 1997). However, in the USA, due to the privatisation of health care and the need for health insurance, parents from lower SES background have been found to be less likely to seek help (Bussing, Gary *et al.*, 2003; Bussing *et al.*, 2005).

As the majority of the studies investigating the factors influencing help-seeking have been conducted in the USA it is questionable whether similar factors would influence the help-seeking behaviours of parents in the UK. Subtle differences are noticed in the way in which parents in these countries access help from child mental health services. In the UK specialist child services, such as CAMHS, are accessed following a referral from the child's General Practitioner (GP), whilst in the USA these services are accessed directly from private health insurance, with the Paediatrician being the first professional parents will meet. (Sayal, 2006). The complex pathway to specialist services in the UK, and the long waiting lists involved, may deter parents from seeking help from their GP, or to continue to wait and receive help from CAMHS (Sayal, 2006).

Another limitation of studies assessing parental recognition and help-seeking behaviours is that they have predominantly focused on the factors influencing *parents* decisions to seek help for their children. As research has highlighted the important role teachers play in the referral process, it is unclear whether similar factors, i.e. age and gender of the child and causal attributions, influence teacher's recognition and perceptions that help should be sought.

3.3. Help seeking for Attention Deficit Hyperactivity Disorder (ADHD).

Parents and teachers are often the first people to suggest that a child be assessed or treated for ADHD (Zovin *et al.*, 1998). This has led researchers to perceive both parents and teachers as “gate-keepers” for children in accessing specialist mental health services for the diagnosis and treatment of ADHD (Sayal, Taylor, Beecham *et al.*, 2002; Zovin *et al.*, 1998). With this fact in mind, researchers have begun to consider the help-

seeking process *specifically* for ADHD behaviours and the factors that may influence whether help is sought. Table 1 shows the studies that were located for this report; considering the vast literature base on ADHD, this area could be considered under-researched.

It is clear from Table 1 that the factors influencing the help-seeking behaviours of teachers have been relatively ignored. The lack of research into this area warrants attention considering the important role school-related problems play in the help-seeking process; with teachers often being the first people to identify that a child has problems requiring mental health services and prompting parents to seek help from these services (Poduska, 2000; Sayal *et al.*, 2003; Zwaanswick *et al.*, 2003). By employing the search strategy used in the current review, the only study located to examine teachers' help-seeking behaviours was a Canadian study conducted by Scuitto and colleagues in 2004 (Scuitto *et al.*, 2004). These researchers found that the perceptions of teachers regarding the disruptiveness of the behaviour influenced whether they would refer the child for an evaluation for ADHD, with hyperactive behaviours being considered more disruptive than inattentive behaviours. Scuitto *et al.* (ibid) recommended that more research is required to examine the factors that mediate teacher's referral decisions. However, the results of this study may not be applicable to the UK, as many teachers in the UK are unable to refer directly to CAMHS, although some services are now allowing this to occur (Sayal Taylor & Byrne, 2002).

With regards to the factors influencing Filter 1 of Verhulst and Koot's (1992) model (p.8), Table 1 clearly indicates that parental perceptions that the behaviour is problematic is a strong predictor for seeking help and of eventual mental health service

Table 1. Studies carried out on filter 1 of the help-seeking process for ADHD.

Authors	N	Subjects	Method employed	Variables found to influence help seeking.
Arcia & Fernández, 1998	7	Mothers of ADHD children	<ul style="list-style-type: none"> Interviews 	<ul style="list-style-type: none"> Causal attributions. Culture.
Bussing <i>et al.</i> , 2005	259	Parents of children “at risk” of ADHD	<ul style="list-style-type: none"> Interview 	<ul style="list-style-type: none"> Explanatory models. Causal attributions
Bussing, Schoenberg <i>et al.</i> , 1998	207	Parents	<ul style="list-style-type: none"> Conners Abbreviated Symptom Questionnaire (ASQ: Connors, 1990) Interviews 	<ul style="list-style-type: none"> Causal attributions.
Bussing, Zima <i>et al.</i> , 2003	389	Mothers of children “at high risk” of ADHD	<ul style="list-style-type: none"> Telephone and home interviews Swanson-Nolan and Pelham-IV (SNAP-IV) 	<ul style="list-style-type: none"> Age of the child. Behaviour severity of the child Stigma. Causal Attributions.
Sayal <i>et al.</i> , 2003	93	Mothers of hyperactive children	<ul style="list-style-type: none"> Parental account of children’s symptoms (PACS: Taylor <i>et al.</i>, 1991). Records of service use. The malaise Inventory (Rutter <i>et al.</i>, 1990). Semi-structured interview 	<ul style="list-style-type: none"> Parental perceptions that the behaviour was problematic. Teachers exerted influence on perceptions and hence help seeking behaviours
Sayal <i>et al.</i> , 2002	127	Parents of 5-11 year old children	<ul style="list-style-type: none"> PACS (Taylor <i>et al.</i>, 1991). Strengths & Difficulties Questionnaire (SDQ: Goodman, 1999). 	<ul style="list-style-type: none"> Parental perceptions that behaviour was problematic.
Scuitto <i>et al.</i> , 2004	199	Primary school teachers	<ul style="list-style-type: none"> 3 vignettes of ADHD symptoms. Knowledge of Attention Deficit Disorder Scale (KADDS: Scuitto <i>et al.</i>, 2000). 	<ul style="list-style-type: none"> Teachers’ perceptions of disruptiveness and the problematic nature of the behaviour.

use. Another main finding of these studies is that parents of children with, or ‘at risk’ of, ADHD hold particular explanations (causal attributions) about the causes of their child’s behaviour; these explanations, in particular, have also been found to be related to the ways parents sought help (Arcia & Fernández, 1998). The definition and role of causal attributions will be explained below (see section 4).

Despite research specifying which factors influence help-seeking behaviour, Bussing, Zima *et al.*, (2003) showed that a substantial gap still exists between problem recognition and seeking an assessment of ADHD. In their study, Bussing, Zima and colleagues, (*ibid.*) found that although the vast majority of parents (88%) in their sample recognised that their child had a problem, only a third of these children (39%) had been assessed for ADHD. Over two thirds of parents did not see a need for professional treatment even though their child fulfilled the criteria for ADHD. These researchers hypothesised this discrepancy to have been due to parents’ lack of knowledge about the nature and course of ADHD, or possibly having alternative explanatory models, or causal attributions, for their child’s behaviour, not considering ADHD to be a medical condition. However, these factors were not assessed in their study. Similar results have also been found in a recent UK study, in which most parents (80%) recognised their child to have a problem but only just over a third (35%) labelled this as hyperactivity and sought professional help (Sayal, & Taylor, 2005).

As with all research studies, limitations are present that add caution to their results. Methodologically, the studies in Table 1 may not be comparable, due to the variety of different methodologies and participants used, for example questionnaires, interviews and parent recall of parents of children either ‘at risk’ of ADHD or diagnosed as

‘hyperactive’. The majority of the studies conducted in this area were not UK based and, therefore, may not reflect the factors influencing the help-seeking decisions of UK parents and teachers. As cultural norms influence whether parents label childhood behaviours as ‘ADHD’ (Livingstone, 1999), ‘serious’ or ‘deviant’ (Bussing, Gary *et al.*, 2003; Bussing *et al.*, 2005), it is possible that cultural differences exist, between the UK and the USA, in the perceptions parents hold towards ADHD symptomatology. Studies conducted in the UK have tended to ignore the role of socio-demographic factors, such as culture and SES, play in help-seeking process, and with ADHD diagnoses found to be higher in families of low socio-economic status, (Biederman, *et al.*, 1995), research in this area is warranted.

3.4. Summary.

Research studies examining the help-seeking pathways parents take to get help for ADHD in childhood have highlighted the influential role parental perceptions have, in particular causal attributions, in determining whether help is sought. Although many parents perceive ADHD behaviours as problematic, many of them do not seek help (Bussing, Zima *et al.*, 2003). It is hypothesised that knowledge and causal attributions held about ADHD may underlie this discrepancy (Bussing, Zima *et al.*, 2003); however, the relationship of these variables to the help-seeking process is unclear, being hypothesised rather than tested in research. Teachers are also considered important people in the help-seeking pathways, often being the first person to recognise ADHD and prompt parents to seek help (Oberklaid, 2004; Vereb & DiPerna, 2003). However, few studies (N=1) have been carried out to identify the factors that influence teachers’ recognition and their decisions to pursue help for children with ADHD.

To conclude: research has highlighted the important role causal attributions play in the help-seeking process. In order to investigate these ideas further, psychological theories and frameworks can be utilised to explore the decision-making involved in initiating the help-seeking process. One such approach that may be used to encapsulate these ideas is that of Attribution theory, which attempts to analyse how people attribute causes to their experiences.

4. Attribution theory and the help-seeking process.

Although the application of attribution theory to help-seeking process seems to be under-researched, this theory was chosen as a focus of the current review due to its past application in (a) understanding parental responses and reactions to ADHD behaviours and (b) parental enrolment and adherence to treatments for their children. The application of attribution theory to the area of ADHD shall be reviewed prior to examining the role causal attributions play in the help-seeking process².

4.1. Causal Attribution Theory.

Attribution theory rests upon the assumption that people have an intrinsic need to understand the causes of events around them, with attributions being based upon people's, the observer's, perceptions or beliefs about the causes of behaviour rather than factual understandings of the event per se (Weiner, 1993). Attributions are defined as the explanations people give to understand and evaluate both their own and other people's behaviours (Miller, 1995) and are described as a basic and pervasive form of

² This coverage is not intended to be a comprehensive review of attribution theory, but rather an overview of the application of the theory to the study of parental reactions towards ADHD

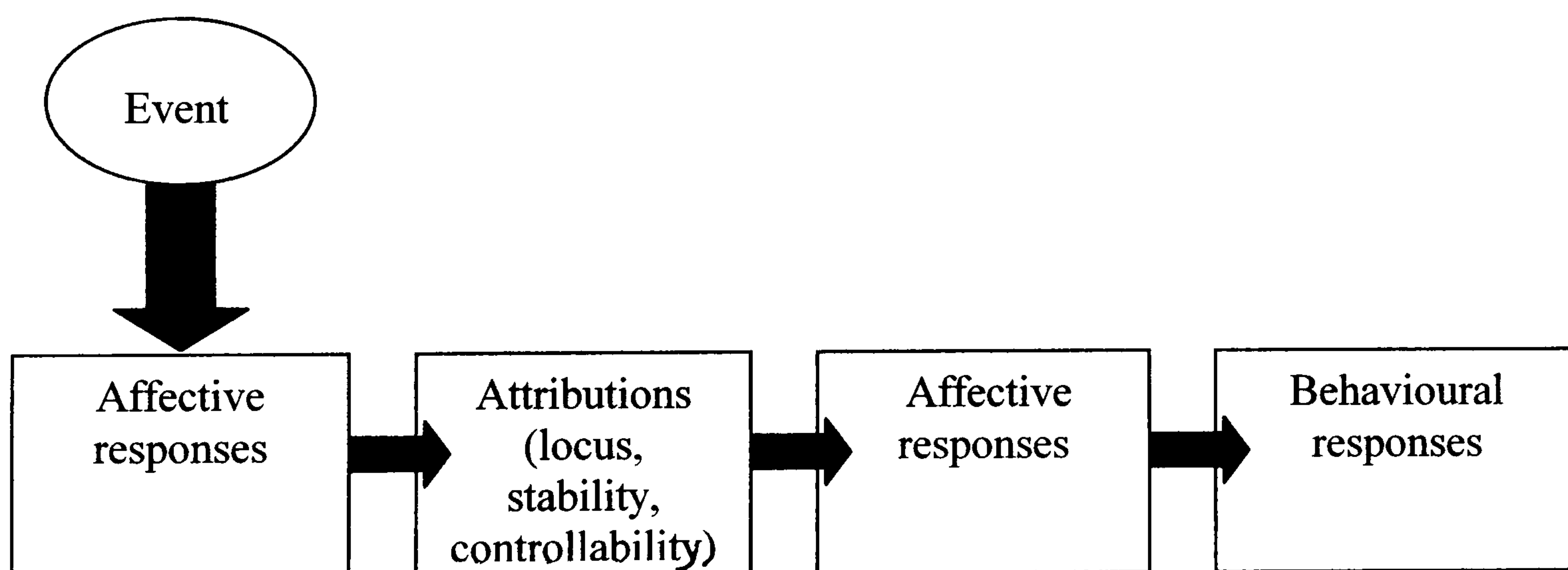
social cognition that is central to all interpersonal and social relationships (Miller, 1995; Slep & O’Leary, 1998).

Conceptually, attributions have been described as possessing several dimensions, which have been refined and modified over the years. In the first psychological theory of attributions, Heider (1958) proposed a “common-sense” approach to understanding how the untrained observer, which he termed the ‘naïve psychologist’, made sense of the actions of others. Heider suggested that the explanations people give for events and actions could be broken down into two dimensions: attributing the ‘cause’ of the behaviour as residing in the person or to the situation or environment, creating an internal-external causal dimension. Heider’s original theory was subsequently extended by Weiner (1972, 1982, 1985), who took Heider’s original internal-external dimension and crosscut it with two other dimensions: *stability*:- whether the cause of the behaviour is seen as transient or will be present in the future; and *controllability (intent)*:- whether the cause of the behaviour is under the control of the person or not. Although subsequent research has indicated other attribution dimensions, Weiner proposed that causal attributions have only three underlying properties: locus, stability and controllability (Weiner, 1985; Weiner, 2000), with locus and controllability being the main dimensions influencing feeling states (Weiner, 2000).

Over the years Attribution theory has been applied to a number of clinical areas, including understanding “parenting behaviours”, such as the use of discipline (Dix *et al.*, 1986), and in examining the ability of children to draw inferences about the psychological motivations guiding human actions (see Baird & Baldwin, 2001 for an in depth review). Weiner’s model of the attribution process (Weiner, 1993; Weiner,

2000), shown in figure 2, is perceived to be a useful and relevant model in understanding parental responses to children's success, failure and misbehaviour (see section 4.2), and their enrolment and engagement in treatment regimes (Morrissey-Kane & Prinz, 1999). This simplistic model, shown in figure 2, suggests that observing a particular event (such as a child's misbehaviour) will evoke in parents both an affective response to the event and a causal search to understand why it occurred. Weiner proposes that the causal dimensions used in this search, for example whether the event/behaviour was caused by dispositional traits of the child, i.e. their personality, and whether it was controllable by the child, will affect how the parent feels about the behaviours and the subsequent actions they take.

Figure 2. Weiner's (1993) Attribution-Emotion-Action model.



Weiner's model (1993), however, is a rather simplistic model in relation to parenting. As with all attributional research, it is questionable whether people process social information in such an elaborate manner or whether they analyse social cues at all in their day-to-day social interactions (Hewstone, 1983). UK theorists criticise Attribution theory for neglecting a variety of social factors, for example the social beliefs of perceivers and wider social systems, such as culture (Hewstone, 1983; King, 1983).

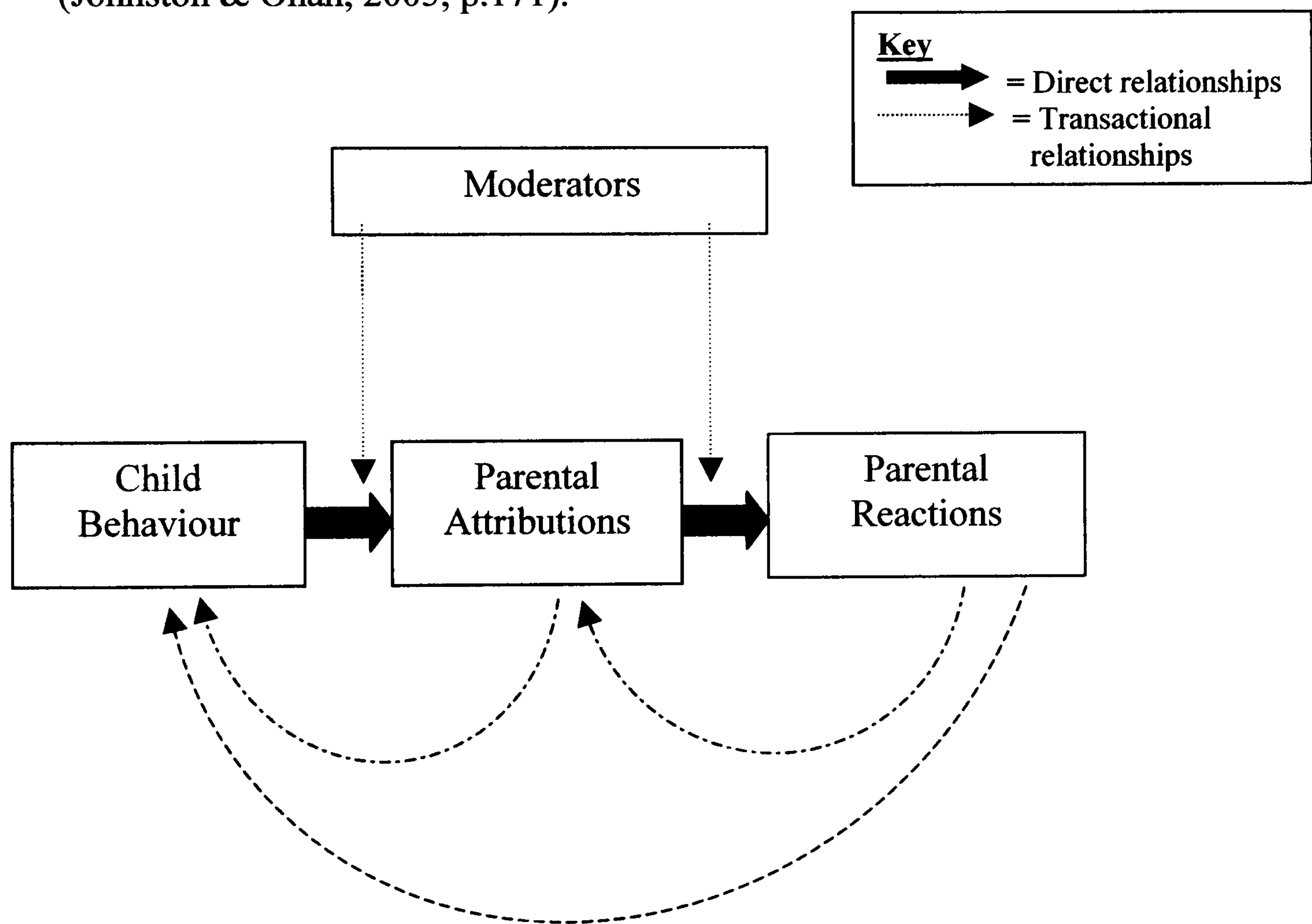
Although Attribution theory recognises that the content of causal beliefs can differ across culture, it assumes that across cultures people tend to make the same inferential errors (Norenzayen & Nisbett, 2000). However, this assumption is not supported by research. In summary, research indicates that in East Asian, ‘collectivist’ cultures, such as China and Japan, where personal identity is created and defined by social relationships, participants tend to use external/situational factors to explain the causes of behaviours (Chavira *et al.*, 2000; Peng & Knowles, 2003). Whereas in Western, ‘individualistic’, cultures, where the individual is perceived as being independent from societal norms, internal factors, such as the person’s disposition, are used to explain the causes of events/behaviours (Chavira *et al.*, 2000; Peng & Knowles, 2003).

4.2. Attribution Theory and ADHD.

Studies examining parental attributions of ADHD have generally attempted to understand the role causal attributions play in parent-child interactions in ADHD families, in particular examining how the attributions made about the causes of ADHD behaviour affect the emotional and behavioural responses of parents. The adaptation of the model to this area, by Johnston and Ohan (2005), is shown in Figure 3. Johnston and Ohan (*ibid.*) postulate that attributions mediate between children’s behaviours and parents’ reactions, with parental attributions functioning as interpretative filters to give meaning to the child’s behaviour (see solid arrows in figure 3). The model also acknowledges that this is a simplified version of the process and therefore highlights the factors that are “moderators” between child behaviours, parental attributions and parental reactions and the non-linear, complex and transactional relationship that exists in this process (shown in the dotted line feedback loops).

This model, however, can only partially explain the emotional and behavioural reactions parents have towards a child’s behaviour and it is possible that other factors, such as parental beliefs, goals and personality, may also affect their reactions. Before examining the research studies that support this model, some of the limitations of attribution studies need to be discussed.

Figure 3. A social cognitive model of parental attributions in parent-child interactions (Johnston & Ohan, 2005, p.171).



4.2.1. Methodological limitations of the assessment of parental attributions.

As the majority of the studies accessing parental attributions are carried out in laboratories, one of the major criticism of these studies rests upon the artificial nature of the studies and, whether in reality parents engage in such rational information

processing when trying to understand the behaviour of their children (Miller, 1995).

Research studies assessing casual attributions have used multiple methods ranging from written analogues, parent recalls of child behaviours and videotaped presentations of their own child behaviours. Written analogues of a hypothetical child are generally considered as offering more experimental control, as the same child behaviour can be presented to all of the parents in the study (Johnston & Freeman, 1997). However, they are often criticised for their lack of realism and validity, as it is unknown whether parental responses to a written description of a child's behaviour is comparable with their response to behaviours displayed by their own child (Johnston & Freeman, 1997). Regardless of the method used to elicit and assess causal attributions, similar findings have been produced when attributions have been assessed using vignettes describing ADHD behaviours, parents' recall of incidents of ADHD behaviour and video clips of interactions of parents and their ADHD children (Johnston *et al.*, 1998; Johnston *et al.*, 2000).

As attributions are considered to be social constructions, affected by the social and cultural context, a criticism of studies within this area is that the majority of them have been conducted with parents in Western countries such as the USA, Canada, UK, and Australia (Johnston & Ohan, 2005). As culture is known to affect the types of attributions made (Peng & Knowles, 2003), it is likely that the attributional styles found in these 'western' cultures may not be the same attributions made by parents in other cultures, such as China and Japan.

4.2.2. Associations between child behaviour and parental attributions.

With these limitations in mind, a number of studies have provided support for Johnston and Ohan's (2005) model (see figure 3). Overall, studies that have examined parental attributions about ADHD children have found that parents of ADHD children, compared to those of children without problems, tend to perceive hyperactive and impulsive behaviours in their children as being 'internal' (the child's disposition), uncontrollable by the child, more stable over time and pervasive across different situations than inattentive behaviours (Bickett *et al.*, 1996; Collett & Gimpel, 2004; Freeman *et al.*, 1997; Freeman, 2000; Jensen *et al.*, 1998; Johnston *et al.*, 1998; Johnston & Freeman, 1997; Johnston & Patenaude, 1989). The results of these studies provide consistent evidence that parents attribute the causes of ADHD to internal, uncontrollable and stable factors which, according to Johnston and Freeman (1997), is in line with the evidence-base about the neurobiological aetiology of ADHD:

"... parents of children with ADHD appear to be making attributions for symptoms of ADHD that are generally consistent with the neurobiological nature of the disorder and widely adopted chronic disease models." (Johnston & Freeman, 1997, p. 642-3). In other words, parents do not blame the children for the ADHD behaviours but see these behaviours as symptoms of an underlying disorder (Johnston & Freeman, 1997).

Although the findings of research studies support Johnston and Ohan's (2005) model by indicating that parents of ADHD children hold different attributions for the causes of child behaviour than parents of non-problem children, the small sample sizes involved in the studies, for example in Jensen *et al.*'s (1998) study (N=26 in each group) and in Freeman *et al.*'s (1997) study (N=40 in each group), limits the generalisability of the results.

Studies within this area have mainly been conducted with parents in the USA. Cultural factors must be acknowledged due to the overwhelming evidence that attributing the causes of ADHD behaviour to the child's disposition is a Western phenomenon; findings which are not replicated with parents of African origin, who tend to attribute the causes of ADHD to the external environment (Bussing, Gary *et al.*, 2003). Other socio-demographic features, such as SES, has also been found to affect attributions made, with parents from higher SES being found more likely to attribute a genetic causality to ADHD than parents from low SES (Bussing, Gary *et al.*, 2003). Due to the need for health insurance, participants in these studies are more likely to have come from more economically advantaged backgrounds and, therefore, the results may not reflect the attributions made by parents from lower SES backgrounds.

4.2.3. Association between parental attributions and parental reactions.

Considerable evidence has found that parental attributions are predictive of parenting reactions. It has been demonstrated that when parents perceive child misbehaviour as intentional or controllable by the child they are more likely to respond with more negative affect and harsher discipline (Dix *et al.*, 1986; Johnston & Patenaude, 1994; Slep & O'Leary, 1998).

Causal attributions are also believed to play an important role in both the initial recognition and decisions to seek help for ADHD and the treatments that parents will pursue after diagnosis. In a study by Arcia and Fernández (1998), seven Cuban mothers of children suspected to have ADHD, and at the first level of the help-seeking pathway, were interviewed about their attributions for the causes of ADHD and their help-seeking

behaviours. In attempting to understand ADHD, mothers initially applied cultural models, defining 'normality', to explain their child's behaviour. They found that help-seeking only occurred after mothers had developed attributions of ADHD that suggested it was a disorder outside the 'normal' range. The study found that attributions classifying ADHD as an organic condition, based upon child centred attributions of internal locus, stability, globality and uncontrollability, directed mothers to seek help from professional services for their children. Although the results of this study are consistent with the results of past studies assessing the attributions that parents of ADHD children hold for this disorder (Johnston & Freeman, 1997), the qualitative methodology used in Arcia and Fernández's (ibid.) study lends itself to possible biases, as incorrect coding is possible when the participants are not coding their own attributions, (Hewstone, 1983). The small sample size (N=7) also questions the generalisability of the results of this study.

Causal attributions have also been found to determine the types of interventions/treatments that parents are likely to adopt (Burns *et al.*, 1995). The expectations parents holds regarding treatment can play a role in parents willingness to engage (Morrissey-Kane & Prinz, 1999). For example, if parents attributed the behaviours to uncontrollable causes, they would be less likely to adopt behavioural strategies for managing these behaviours that are based upon the assumption that behaviours are learnt and changeable (Burns *et al.*, 1995). Similarly, parents holding purely genetic, biological explanations (attributing the causes of ADHD to internal, uncontrollable and stable factors) may not change their own behaviour and thus perceive medication to be the best option (Wright *et al.*, 2000). Bussing *et al.*, (2005), in a qualitative study of parents of children "at risk" of ADHD, showed that parents who

viewed their child as “misbehaving” perceived them as candidates for behaviour modification, whereas parents who perceived their child’s behaviour as bad and uncontrollable did not feel they could affect their behaviour. Bussing *et al.* (ibid.) study suggests that parental perceptions may affect the types of interventions that are taken up, with causal attributions being considered barriers to treatment. In this study, social demographic features such as ethnicity were also found to mediate the types of attributions held about ADHD and the treatments parents were likely to endorse. Compared to Caucasian parents, African-American parents were less likely to attribute ADHD to biological factors or request medication for their child (Bussing *et al.*, 2005)

4.2.4. Teachers’ attributions for ADHD behaviours.

Although the area of attribution theory has been applied to the educational setting within the realm of academic achievement (Bar-Tal, 1982; Weiner, 1982) the causal attributions teachers hold about ADHD have rarely been assessed. Only two studies were located for the current review that assessed teachers’ attributions for ADHD behaviours (Arcia *et al.*, 2000; Koonce *et al.*, 2004). Both of these studies found that the attributions that teachers make for the causes of ADHD behaviour seem to be negative and contrary to the causal attributions held by parents. Arcia *et al.* (2000) interviewed 24 elementary teachers about the management strategies and attributions they held for students that they taught who had been diagnosed with ADHD. The study indicated that teachers did not link the child’s behaviour disturbances to ADHD. Teachers attributed the causes of the child’s behaviour to environmental factors, such as an unstable home environment and watching too much television, and felt that the child’s behaviour would change over time. Many of the teachers were also reported to

possess insufficient knowledge about ADHD. The attributions teachers made about the causes of ADHD, being caused by the environment, were also found to be consistent with the management strategies that they thought would be appropriate for these children, i.e. the need for a more stable home environment and watching less TV.

On a similar note, a more recent study by Koonce and colleagues (2004) assessed 259 pre-service/undergraduate teachers' attributions for children with ADHD using two vignettes describing the same children, but with one vignette specifically labelling the child as having ADHD. This study found that the child who was labelled as having ADHD was viewed in a negative light and was attributed more social difficulties than when compared to a child with similar difficulties but not labelled as having ADHD. However, the validity of these studies that have assessed the causal attributions teachers' hold towards ADHD is questionable. Koonce *et al.*'s (ibid.) study used teachers in training and, therefore, may not be representative of qualified/practising teachers. Both of the located studies were carried out in the USA and, therefore, may not be generalisable to teachers in other countries, such as the UK. There may also be confounding variables such as the age, gender and teaching experience of the teacher and, more importantly, their knowledge about ADHD, which may have had an impact on types of attributions they held towards the causes of the disorder.

Research also suggests that parents and teachers may hold different and opposing beliefs about the causes of ADHD. In a recent study by Harborne, *et al.* (2004), ten parents of children with ADHD were interviewed, using a semi-structured interview format, to assess both their knowledge of ADHD and the impact that this disorder had on their lives. The study revealed that most of the parents believed their child's condition to be the result of an innate biological condition. However, they perceived

that important agents, such as teachers and clinicians, were holding opposing beliefs that ADHD was due to poor parenting. This difference in perceived causes of ADHD was reported by parents to heighten feelings of self-blame, as well as causing conflict with teachers and clinicians about the validity of their child's diagnosis. A similar finding was also found in an earlier study undertaken by Reid *et al.*, (1996) who, using a qualitative study of 20 parents, found that many parents perceived that teachers did not take ADHD seriously and believed that their child's problems were the result of ineffective parenting skills. Parents in this study also believed that teachers were ignorant about ADHD and what they knew was stereotypical. However, both these studies were based upon small sample sizes (10 & 20 respectively) and only obtained the views of parents.

In comparison with studies assessing parental attributions for the causes of ADHD behaviours, research seems to have neglected the attributions of teachers. Considering the important role teachers play in both the recognition, assessment and diagnosis of ADHD (Barkley, 1990; Brook *et al.*, 2000; Poduska, 2000), it is surprising that teachers' attributions, in relation to the causes of ADHD behaviours, have not been examined.

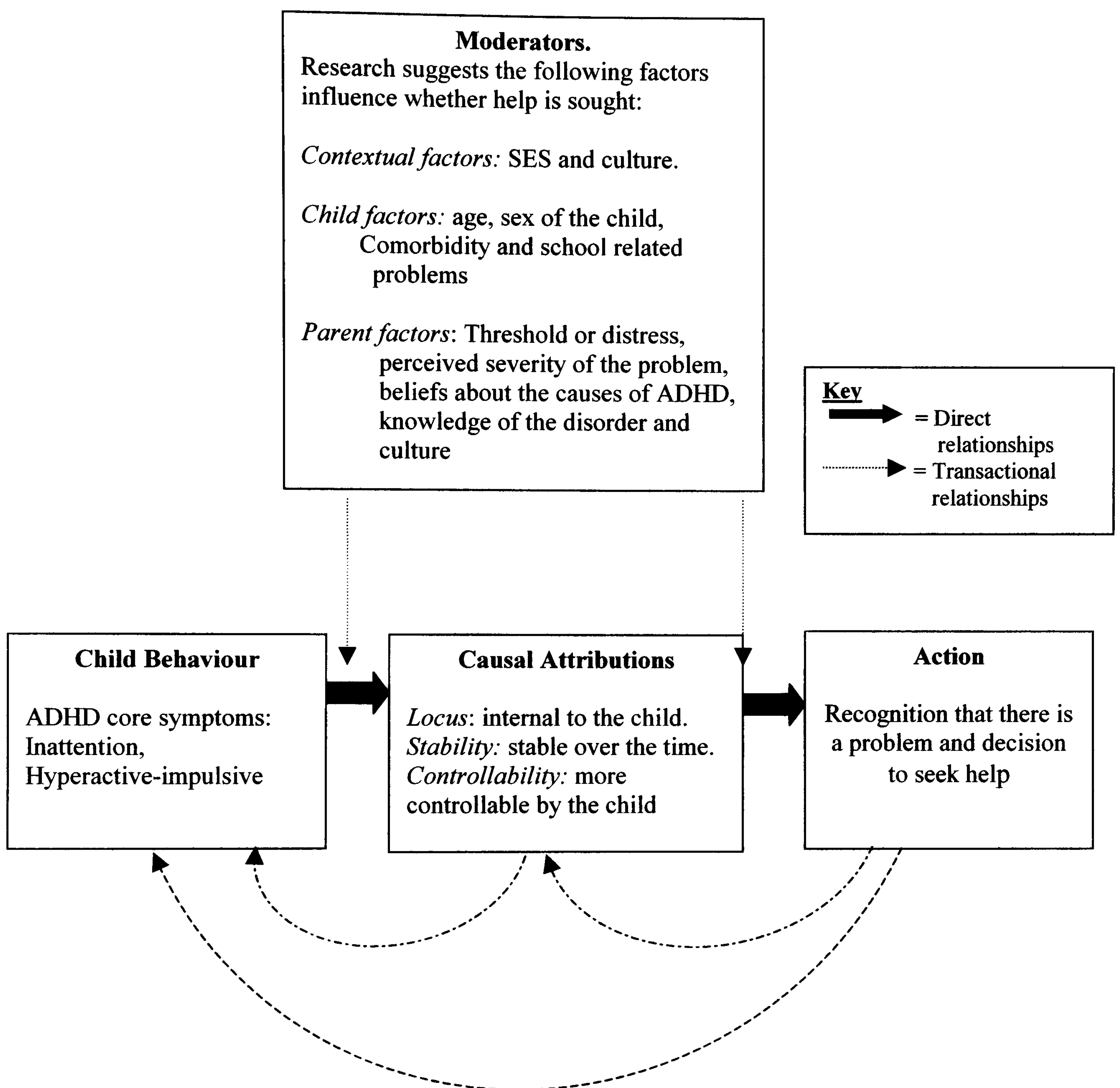
4.3. Bringing it all together: applying an Attributional Model to the Help-seeking Process for ADHD.

As discussed earlier in this review, studies examining the factors influencing help-seeking have highlighted the influential role causal attributions play in decisions of parents to seek help for ADHD (Arcia & Fernández, 1998; Bussing, Schoenberg *et al.*,

1998; Bussing, Zima *et al.*, 2003; Bussing *et al.*, 2005). No studies have been located that have examined the role causal attributions have in influencing teachers recognition of ADHD and their perceptions that professional help is required. As teachers are often the first to recognise ADHD and initiate the help-seeking pathway indirectly by prompting parents to seek help (Poduska, 2000; Sayal *et al.*, 2003; Zwaanswick *et al.*, 2003), the lack of research into this area reflects a substantial theoretical gap in the help-seeking model. Studies assessing the role causal attributions play in the help-seeking pathway have been based upon studies using parents.

Although only a small body of literature exists for investigating the role attributions play in the help-seeking process for ADHD, it is useful to collate these findings into Johnston and Ohan's model (Figure 3, p.21) in order to provide a conceptual model (see Figure 4) which attempts to map the help-seeking process for ADHD in a psychological theory, rather than the dominant psychiatric perspective which is commonly used (i.e. Verhulst and Koot's 1992 model). The proposed model, shown in Figure 4, which has been specifically adapted for this review, attempts to incorporate and integrate the factors that research has found to influence the help-seeking process for ADHD. In this model, these factors are considered important in mediating both the attributions parents hold towards the causes of a child's behaviour and also in their recognition of the problem and their decisions to seek help. This model attempts to highlight the role that attributions play in the help-seeking behaviours of parents and to aid future research in examining the psychological factors that may influence the help-seeking pathway for ADHD. Due to the lack of research into this area, it is questionable whether this model could be used to understand teachers' recognition of ADHD and decisions that help is required, as different and specific factors may be influencing their opinions.

Figure 4. Conceptual Attributional Model for the Help-seeking process for ADHD.



4.4. Summary.

Research has been carried out to examine the explanations and attributions that parents of children with ADHD give for the causes of hyperactive and impulsive behaviours. These studies have conclusively found that causal attributions held about ADHD, in particular for the symptoms of hyperactivity and impulsivity, are centred upon the child and could be loosely classified to reflect the neurobiological aetiology for ADHD.

Causal attributions have also been found to be important in influencing the help-seeking behaviours of parents of children with ADHD. Due to the use of qualitative studies in this area and the inherent use of small sample sizes (e.g. Arcia & Fernández's, 1998 study), research has yet to quantify the role of causal attributions in the help-seeking process and specify which of the attribution dimensions most strongly predicts help-seeking behaviours. Research has also neglected the attributions teachers' hold towards the causes of ADHD behaviours and the role attributions play in their decisions that help should be sought for a child displaying ADHD symptomatology. Studies that have examined parental attributions for ADHD are often based upon parents of children diagnosed with ADHD, who may have been in the child mental health system for a number of years and may have more knowledge about the neurobiological model of ADHD. Many of these children may have been receiving medication for the disorder, which in itself has been criticised for its "iatrogenic" effects, portraying a message to clinicians, parents and child that the causes of hyperactivity are physiological in nature, and that the child is not in control of this behaviour (Whalen & Henker, 1976). It is unclear whether these findings would represent the attributions of parents who may be contemplating whether they should seek help for a child displaying the core symptoms of ADHD.

5. Discussion and Future research.

Past research has indicated that many parents are unwilling to bring their child's mental health problems to the attention of service providers (Bussing, Schoenberg *et al.*, 1998; McCune *et al.*, 1984). The Children's National Service Framework (NSF) (DoH, 2004) acknowledges that many children, young people and their families who could be

benefiting from mental health services for assessment and treatment are not accessing help, estimating that 40% of children with a mental health disorder in the UK are not receiving any help from specialist services. This policy lists a number of reasons for the low uptake of services, such as lack of trust in services, the perceived stigma attached to the area of mental disorders and parental beliefs about solving the problems themselves and that nothing can be done (DoH, 2004). Therefore, investigations into factors influencing and preventing help-seeking is essential.

Verhulst and Koot's (1992) help-seeking pathway model (see page 9) has been adapted to the area of child psychopathology, to examine the factors that are associated with the increased likelihood that parents will seek help for their child's behaviour. This model, and research into this area, has also been extended to the area of ADHD. The main criticism proposed in the current review of this help-seeking model is that it is a psychiatric model of this pathway and, therefore, does not give any insight into the psychological factors and decision-making processes behind parents and teachers decisions to seek help. The current review has provided a conceptual model, using attribution theory, to attempt to account for individuality in this process and the role attributions play within the help-seeking pathway.

The majority of the studies assessing the help-seeking process for ADHD have been carried out in the USA. Variations in the accessibility of services, criterion used in the UK to diagnose ADHD, and cultural differences may mean that the factors influencing parental decisions to seek help for ADHD are different to the factors highlighted in studies conducted in the USA (Sayal, 2006).

Research has also mainly focused upon the factors that predict parental help-seeking behaviours; considering the important role teachers play in the assessment and diagnosis of ADHD, it is surprising the factors predicting teachers recognition of ADHD and decisions that a child needs help have been neglected. Research has also highlighted the potential role causal attributions and knowledge plays in mediating whether help is sought for children displaying the core symptomatology associated with ADHD (Bussing, Zima *et al.*, 2003). However, these studies have not specified which attribution dimension (locus, stability or controllability) predicts whether help is sought and the causal attributions held by qualified teachers. With regards to knowledge of ADHD, research has tended to ignore the role this may play in the help-seeking process.

5.1. Future research: bridging the gaps.

The current review has identified substantial gaps in the process of help-seeking for ADHD behaviours. Future research is required in the following areas, which in turn will inform the development of interventions that improve the identification of children with ADHD (Sayal *et al.*, 2005).

- As most of the studies carried out within this area are American, more studies are required to assess whether similar factors influence the help-seeking behaviours for ADHD symptomatology in the UK. Identification of these factors may result in more children receiving help earlier and preventing the adverse effects this disorder may have in adulthood.
- Research is required to examine the role causal attributions and knowledge have in predicting help-seeking in parents and teachers. Identifying the role these factors

play has important clinical implications for both assessment/diagnosis and treatment, with causal attributions being found to influence the types of treatments parents will adhere or engage in (Morrissey-Kane & Prinz, 1999; Wright *et al.*, 2000).

- Research is needed to identify the factors influencing teachers' decisions to seek help and the types of attributions they hold for the different ADHD symptoms (inattention, impulsivity and hyperactivity). Due to the important role teachers play, not only the recognition of ADHD and prompting parents to seek help but also in the treatment of the condition (Poduska, 2000), the identification of the maladaptive attributions is crucial in order to improve children's access to specialist services and also in enhancing accurate diagnosis and treatment.

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SECTION 2: RESEARCH REPORT.

Help-seeking for Attention Deficit Hyperactivity Disorder (ADHD):

The role of causal attributions and knowledge in determining whether parents and teachers seek help for ADHD.

Abstract

Background: Past surveys examining the mental health needs of children and adolescents in the United Kingdom have found that there is a low use of specialist mental health services and an under-diagnosis of “ADHD” (Meltzer *et al.*, 2000). Research studies examining the help-seeking pathways parents in particular take to get help for ADHD in childhood have highlighted the influential role of parental perceptions, in particular causal attributions, in determining whether help is sought.

Aims: The current study aimed to identify whether knowledge, perceiving the behaviour as problematic and causal attributions influenced the decisions of parents and teachers to seek help for a child displaying symptoms of ADHD.

Method: Sixty-three mothers and sixty-nine teachers participated in the study. All participants were given ‘The Knowledge of Attention Deficit Disorder Scale’ (KADDS: Scuitto *et al.*, 2000) and had to rate two vignettes describing a child displaying inattentive and hyperactive-impulsive behaviours on how much of a problem they perceived the behaviours to be; on the causal attribution dimensions of locus, controllability, stability and globality and whether they would seek help for the child.

Findings: Perceiving the behaviours as a problem was the strongest predictor of whether mothers and teachers would seek help for a child displaying the core symptoms of ADHD. Discrepancies were found between mothers and teachers reports about the different ADHD behaviours. Causal attributions also had a role in predicting help-seeking, with both mothers and teachers perceiving ADHD as an organic condition, caused by factors within the child, uncontrollable and pervasive.

Conclusion: The findings of this study have several important implications for the clinical areas of service delivery/training, assessment, diagnosis and treatment of ADHD.

Key words: ADHD, help-seeking, causal attributions and knowledge.

1. Introduction.

Attention Deficit Hyperactivity Disorder (ADHD) is a childhood disorder characterised by three core symptoms: inattention, impulsiveness and hyperactivity (APA, 2000).

Although considered to be one of the most commonly encountered clinical syndromes in child and adolescent mental health services, past surveys have found that there is a low use of specialist services and an under-diagnosis of ADHD in the United Kingdom (UK) (Meltzer *et al.*, 2000).

1.1. The Help-Seeking Pathway for ADHD.

Models of help-seeking have often been used to understand why many children fail to come to the attention of service providers. As children rarely refer themselves to specialist mental health services, it is usually parents and teachers who decide whether or not a child requires specialist help (Weisz *et al.*, 1991). As an aid to understanding the facilitators and obstacles to help-seeking, Verhulst and Koot's (1992) help-seeking models maps the process as a journey through various filters and levels, beginning with parental recognition and decisions to seek help to the eventual use of specialist mental health services and inpatient care (Verhulst & Koot, 1992). Due to the important role parental recognition and decisions play, the majority of research has focused upon this aspect of the help-seeking pathway.

Research studies examining the pathways parents take to get help for ADHD have highlighted the influential role parental perceptions, in particular causal attributions, have in determining whether help is sought (Arcia & Fernández, 1998; Bussing, Schoenberg *et al.*, 1998; Bussing, Zima *et al.*, 2003; Bussing *et al.*, 2005; Sayal *et al.*,

2003; Sayal *et al.*, 2002. However, despite associations found between parental perceptions and help-seeking, research has also indicated that many parents do not seek help, even though they perceive their child to have a “problem” (Bussing, Zima *et al.*, 2003). It has been hypothesised that parental lack of knowledge about the nature and course of ADHD and alternative explanatory models, or causal attributions, held for ADHD behaviours may underlie this discrepancy (Bussing, Zima *et al.*, 2003).

Studies specifically examining the help-seeking pathways for ADHD are sparse and have often been conducted using small sample sizes and in countries outside the UK, such as the USA. Culture plays an important role, not only in determining whether parents define behaviour as ‘problematic’ or ‘abnormal’, but also in subsequent decisions to seek help (Cauce *et al.*, 2003). It is possible that there are differences between the UK and the USA in what is defined as ‘normal’ and ‘abnormal’ behaviour. Service variations, in particular access to services, also exists between these two countries. In the UK, access to child mental health services usually occurs following a referral from the child’s general practitioner (GP), whilst in the USA, direct access to these services is gained from the use of health insurance (Sayal, 2006). This variation may mean that, in the USA, parents from more economically-advantaged backgrounds will have better access to services, whilst in the UK all social classes should theoretically have the same access to specialist services (Verhulst & Van der Ende, 1997).

With regards to teachers, research has tended to neglect the factors that influence teachers in their recognition and their decisions that help should be sought for a child displaying ADHD symptomatology. Although teachers are not able to directly refer into

many CAMHS services, they are considered to play an important role not only in the recognition of ADHD but also in prompting parents to seek help (Sayal *et al.*, 2003). The lack of research into this area reflects a substantial gap in knowledge about the help-seeking process.

In summary, past research highlights the important role parental perceptions play in prompting parental decisions to seek help for ADHD. These studies have hypothesised the influential role causal attributions and knowledge held about ADHD may play in this process, with these factors being hypothesised rather than tested in research.

1.2. Causal Attributions and Help-seeking.

Causal attributions are defined as the explanations people use to understand and evaluate the causes of behaviour (Miller, 1995). Attribution theory has been used in a number of clinical areas pertaining to ADHD, such as understanding parental responses to ADHD behaviours (Johnston & Freeman, 1997) and their enrolment in, and adherence to treatment regimes (Wright *et al.*, 2000). In the area of ADHD, a small number of studies have been conducted to explore the role causal attributions play in the help-seeking process of parents (Arcia & Fernández, 1998; Bussing, Schoenberg *et al.*, 1998; Bussing, Zima *et al.*, 2003; Bussing *et al.*, 2005). In conclusion, research has tended to suggest that attributions classifying ADHD as an organic neurobiological condition, perceiving the causes of ADHD as being internal locus (something to do with the child), uncontrollable by the child, stable over time and global over situations, are associated with parental decisions to seek professional help for their children (Arcia & Fernández, 1998). However, these attributions seem to develop when cultural

explanations defining ‘normal’ child behaviour fail to explain the child’s misbehaviours (Arcia & Fernández, 1998)

With regards to teachers, research seems to have neglected the role causal attributions play in their recognition of ADHD and their perceptions that professional help is required. Compared to studies assessing parental causal attributions for ADHD behaviours, studies have also failed to examine the causal attributions teachers’ hold about this disorder. From the few studies located (N=4), the explanations that teachers give for the causes of ADHD behaviour seem to be contrary to those held by parents (Arcia, *et al.*, 2000; Harbourne *et al.*, 2004; Koonce, *et al.*, 2004; Reid, *et al.*, 1996). Studies within this area have found that teachers often attribute ADHD behaviour to environmental factors, such as watching too much television, believing that these behaviours would change over time (Arcia *et al.*, 2000). Insufficient knowledge about the nature and course of ADHD was also mentioned as an influencing factor within these studies (Arcia *et al.*, 2000; Reid *et al.*, 1996).

In summary, research has suggested that causal attributions play an influential role in parental decisions to seek help for ADHD. However, these studies have often been carried out using small sample sizes in non-UK countries, such as Cuba or the USA. Variations in accessing services, differences in societal/cultural norms defining ‘abnormal’ behaviour and the predominant use of middle-class participants in USA studies may mean that the results of these studies are not generalisable to parents in the UK (Sayal, 2006). With regards to teachers, substantial gaps in the literature exist in identifying the causal attributions they held about ADHD and the role of knowledge about ADHD and causal attributions in determining whether or not to seek help.

1.3. Knowledge of ADHD and Help-Seeking.

Insufficient knowledge about ADHD has been hypothesised to be another factor influencing or preventing help-seeking to occur (Bussing, Zima *et al.*, 2003). Deficits in knowledge about ADHD have been linked to a variety of factors: parenting stress (Johnston & Mash, 1983); reduced problem recognition (Bussing, Gary *et al.*, 2003); parental enrolment and engagement in treatment (Johnston *et al.*, 2005; McNeal, *et al.*, 2000). However, with regards to ADHD, the relationship between knowledge and decisions to seek help have been hypothesised rather than tested in research. As knowledge is believed to be such an important factor, quantifying its role in the help-seeking process is therefore essential.

Overall, there seems to be little research examining the knowledge base of parents about ADHD (Bussing, Zima *et al.*, 1998; Harbone, *et al.*, 2004), whereas the majority of studies in this area have been carried out to assess the knowledge teachers' hold about ADHD. Findings of studies within this realm seem to suggest that both parents and teachers hold myths and misconceptions about ADHD, for example incorrectly attributing the causes of it to factors that research has found to be insignificant, such as diet and sugar (Barbaressi & Olsen, 1998; Brook *et al.*, 2000; DiBattista & Sheppard, 1993; Jerome, *et al.*, 1994; Jerome, *et al.*, 1999; Johnston, *et al.*, 2005; Kasten, *et al.*, 1992; Kos, *et al.*, 2004; Scuitto, *et al.*, 2000). In comparison to teachers, parents have been found to be more knowledgeable about ADHD, especially regarding the causes and treatment, than teachers (West *et al.*, 2005).

Knowledge is perceived to be constructed and guided by the social and cultural world a person lives in (Lightfoot & Valsiner, 1992). Socio-demographic factors such as

culture and socio-economic status have been found to affect parental knowledge regarding ADHD (Bussing, Gary *et al.*, 1998). In a study by Bussing, Gary and colleagues (1998) African-American parents, and parents from lower socio-economic backgrounds, were less likely to know someone with ADHD and had lower knowledge scores than their Caucasian or socio-economically advantaged counterparts.

Methodologically it is questionable whether studies assessing knowledge of ADHD have been accurate and valid. Studies conducted within this area have tended to assess knowledge of ADHD by either by using qualitative methodology or unvalidated questionnaires. In addition, all of these studies were conducted outside the UK and it is, therefore, questionable whether similar findings would be found using teachers from a UK sample.

1.4. Rationale and Aims.

Parents and teachers are often the first to suggest that a child be assessed or treated for ADHD (Zovin, *et al.*, 1998). This has led many researchers to perceive both parents and teachers as “gate-keepers” for children in accessing specialist mental health services for the diagnosis and treatment of ADHD (Sayal, *et al.*, 2002; Zovin, *et al.*, 1998). A recent health policy document has recognised the need for greater understanding of the factors influencing help-seeking (DoH, 2004).

The current study has been designed to add to and clarify the existing literature, which suggests possible links between decisions to seek help (help-seeking), knowledge and the causal attributions held towards ADHD. A comparison will also be made between

mothers and teachers with regard to their knowledge of ADHD and the causal attributions they hold for the core ADHD behaviours, i.e. inattention and hyperactive-impulsive behaviours. In addition, the study will explore whether mothers and teachers hold different causal attributions for the core ADHD symptoms.

1.5. Research Questions and Hypotheses.

1.5.1. Question 1.

Do knowledge of ADHD, causal attributions and perceptions of the problematic nature of the behaviours predict the likelihood that mothers and teachers will seek help for a child displaying inattentive and hyperactive-impulsive behaviours?

Past research has suggested that help-seeking for ADHD is more likely to occur when the causes of a child's behaviour is perceived as being internally caused (something to do with the child), uncontrollable, stable over time and pervasive, global, across situations (Arcia & Fernández, 1998). Parental perceptions regarding the problematic nature of the behaviour have also been found to be strong predictors of help-seeking (Sayal *et al.*, 2003; Sayal *et al.*, 2002). A copy of the variable definitions and scoring criteria is presented in Table 2.

Hypothesis 1 (H1): *Higher scores of help-seeking, reported by mothers and teachers, for a child displaying inattentive behaviours will be significantly predicted by higher scores of knowledge, higher “internal-locus”, “uncontrollability”, “globality”, “stability” and “problem perception” scores.*

Hypothesis 2 (H2)

Higher scores of help-seeking, reported by mothers and teachers, for a child displaying hyperactive-impulsive behaviours will be significantly predicted by higher scores of knowledge, higher ‘internal-locus’, “Uncontrollability”, “globality”, “stability” and “problem perception” scores.

1.5.2. Question 2.

Is there any difference in the causal attributions mothers and teachers hold for inattentive and hyperactive behaviours?

Past research has suggested that mothers and teachers hold different and opposing beliefs about the causes and prognosis of ADHD. Research has demonstrated that mothers are more likely to attribute the causes of ADHD to internal, uncontrollable and stable factors (Collett & Gimpel, 2004; Freeman, *et al.*, 1997; Freeman, 2000; Jensen *et al.*, 1998; Johnston *et al.*, 1998; Johnston & Freeman, 1997). With regards to teachers, past research has found that teachers tend to attribute ADHD behaviours to an external locus of causality, such as an unstable home environment, and believe the behaviour to be transient and will change over time (Arcia *et al.*, 2000).

With regards to differences in the causal attributions made for the different ADHD behaviours, research has found that mothers perceive hyperactive-impulsive behaviours as being internally caused, more uncontrollable by the child and more stable over time than inattentive behaviours (Collett & Gimpel, 2004; Johnston & Freeman, 1997).

Hypothesis 3 (H3)

Mothers will have higher scores on the causal attribution dimensions of locus, uncontrollability, stability and globality (reflecting attributions of internal causation, controllability, stability and globality) for inattentive and hyperactive-impulsive behaviours than teachers.

Hypothesis 4 (H4)

In comparison to hyperactive-impulsive behaviour, higher scores will be given for inattentive behaviours on the causal attributions of locus, controllability, globality and stability dimensions.

1.5.3. Question 3.

Is there any difference between mothers and teachers in their knowledge about ADHD?

Past research has suggested that mothers are more knowledgeable than teachers in their overall knowledge about ADHD and also in their knowledge about the causes and treatment of ADHD (West *et al.*, 2005).

Hypothesis 5 (H5)

Mothers will score significantly higher on the Knowledge Attention Deficit Disorder Scale than teachers.

Table 2. Operational definitions, dimensions and scoring of the variables used in the current study.

Variable and location in Part C of the Questionnaire	Definition³	Dimensions*	Scoring*
Q1. Problem Perception	Perceptions about the problematic nature of the behaviour	Not at all – Very much a problem	Scores below 5 = not a problem Scores above 5= very much a problem
Q2. Locus	Whether the causes of the behaviour is perceived as being caused by the external environment (other people and the situation) or something about the person (i.e. personal disposition of the child).	External - Internal	Scores below 5 = external locus Scores above 5= internal locus
Q 3. Controllability	Whether the cause of the behaviour is perceived as being under the control of the person or not	Controllable - Uncontrollable	Scores below 5 = controllable Scores above 5= uncontrollable
Q4. Globality	Whether the cause of the behaviour is perceived as specific to the situation or happens in many situations	Specific - Global	Scores below 5 = specific Scores above 5= global
Q5. Stability	Whether the cause of the behaviour is perceived as transient or will be present in the future	Unstable - Stable	Scores below 5 = unstable Scores above 5= stable
Q8. Help-seeking	Perceptions regarding whether help should be sought	Very unlikely – Likely to seek help	Scores below 5= very unlikely to seek help Scores above 5= very likely to seek help

³ Definitions of causal attributions taken from the work of Bernard Weiner (1972, 1982, 1985, 1986, 2000).

* For an explanation of scoring please refer to section 2.3.4.3

2. Method.

This section of the report will describe the design of the study, detailing information about the sample, data collection methods, and the rationale for the choice of the measures used

2.1. Study design

The study utilised quantitative methodology to identify whether knowledge and causal attributions predicted help-seeking for (a) inattentive behaviours and (b) hyperactive/impulsive behaviours associated with ADHD. For these hypotheses, help-seeking behaviour was the dependent variable, while knowledge, perceptions about the problematic nature of the behaviours and causal attributions of locus, stability, controllability and globality were the independent variables. Analyses were carried out separately for the two core ADHD behaviours.

The study also utilised a between-groups comparison to examine the differences between mothers and teachers on measures of knowledge and causal attribution dimensions for both inattentive and hyperactive-impulsive behaviours.

2.2. Participants

2.2.1. Sample size calculation.

A sample size calculation was conducted to identify how many mother and teachers would be required for the current study. This calculation was based upon research question 1, the main focus of the study, which aimed to examine whether knowledge

and causal attribution predicted help-seeking in mothers and teachers. Due to the lack of past studies within this area an exact sample size could not be determined. However, Green (1991) proposed a method for determining a minimum sample size to test R^2 of a regression model. Green (ibid.) suggested a minimum sample should be greater than $50 + 8k$, where K is equal to the number of independent variables. Using this equation and based upon the six predictors used in the current study (group-mothers/teacher, problem perception, locus, controllability, stability and globality) it was estimated that a minimum of 98 participants were required

2.2.2. Teachers.

A sample of female teachers from nine selected Local Educational Authority (LEA) maintained primary schools in Leicester city and the Leicestershire region took part in the study ($N=69$). The socio-economic characteristics of the participating schools, as measured by the percentage of pupils entitled to school meals, the percentage of children for whom English is an educational language and the percentage of children registered as having special educational needs, is provided in Appendix B. The inclusion criterion for schools was that participating school were primary schools located in the specified region.

For teachers, the inclusion criterion was that they must be female teachers employed within the selected schools. The reason for selecting female teachers was that few male teachers are employed in primary schools (Personal communication: Statistics & Data Service Team, Leicester City Council, 2005), therefore, it would have proved difficult to have recruited sufficient numbers of male teachers to ensure a meaningful comparison with female teachers.

2.2.3. Mothers.

A sample of mothers (N=62) was drawn from the first five participating schools. The inclusion criterion for mothers was that they had a 7 or 8-year old child currently attending the selected schools and they did not have a child with ADHD that had been referred to specialist mental health services, i.e. Child and Adolescent Mental Health Services (CAMHS). Only mothers were sampled due to the small number of participants anticipated and that the teachers sampled were also female.

2.3. Measures.

All measures were presented within two separate questionnaire booklets, one for mothers and one for teachers. The advantage of using questionnaires is that they are easy to administer and a cost effective way of accessing a large number of participants (Fife-Shaw, 1995).

2.3.1. Questionnaire Booklet Development.

The development of both questionnaire booklets was completed with the input of two clinical supervisors and was initially piloted on eight mothers and eight teachers (see section 2.4.2). The content of each questionnaire booklet and the order presented is shown in Table 3 below. An exemplar copy of questionnaire given to the mothers is shown in Appendix C. The teacher questionnaire was similar in content to the parent questionnaire, but differed with respects to the demographic information asked for and the setting specified in vignette 2 (see Appendix D).

In order to minimise possible differences in ease of reading, all research materials were designed for ease of understanding and piloted on a small sample of mothers and

teachers. The questionnaire booklets were typed using Times New Roman font of at least size 10.

Table 3. Summary of Mothers and Teacher Questionnaire Booklet Measures.

Questionnaire Booklet Component	No of Items (mothers)	No. of Items (teachers)
Part A: Demographic Information	6	10
Part B: Knowledge of Attention Deficit Disorder Scale (KADDS).	36	36
Part C: Information sheet		
Part C: Vignette 1		
Part C: Causal Attribution questions	8	8
Part C: Vignette 2		
Part C: Causal Attribution questions	8	8

2.3.2. Part A: Demographic information.

Part A of the questionnaire was designed to record demographic information about participants, such as age and ethnicity. This section was slightly different for mothers and teachers. For mothers, a question was included about whether they had heard about ADHD and where they had obtained any information about the disorder. For teachers, the same questions were asked but additional questions were included regarding the length of teaching experience they had, training in ADHD, contact with ADHD children and with professionals, whether they had been involved in the process of diagnosis ADHD and whether they had offered advice about ADHD to mothers (see Appendix D).

2.3.3. Part B: Measure of Knowledge of ADHD.

Knowledge about ADHD was assessed using an established questionnaire with known psychometric properties. This questionnaire selected was the Knowledge of Attention Deficit Disorder Scale (KADDS) (Scuitto & Terjessen 2004). The KADDS is a 36-item rating scale that uses a 'True' (T), 'False' (F) and 'Don't Know' (DK) format. The KADDS was designed to measure knowledge and misconceptions of ADHD in three specific areas: *symptoms/diagnosis* of ADHD, the *treatment* of ADHD and *associated features* (i.e. general information about the nature, causes and prognosis of ADHD).

As this scale was developed and tested in the United States of America, and used mainly in research assessing teachers' knowledge of ADHD, the wording on some of the questions was changed to make it suitable for a UK sample of teachers and mothers. These changes are shown in Appendix E. These changes were discussed with the author of the questionnaire, Mark Scuitto, who gave permission for the questionnaire to be used in the current study and did not consider the changes to affect the psychometric properties of the scale (personal communication 18 February 2005).

Reliability of the KADDS: The KADDS is reported to have high internal consistency ($.80 < \alpha < .90$) and the three subscales within this measure (associated features, symptoms/diagnosis, and treatment) are reported to have moderate internal consistency ($.52 < \alpha < .75$) (Scuitto, & Feldhammer, 2005). Test-retest reliability for the KADDS, total score and sub-scales, has also been found to moderate to high ($.59 < \alpha < .76$), with the total score of the KADDS reported to have high re-test reliability (.76) (Scuitto, & Feldhammer, 2005).

Validity of the KADDS: Validity of the KADDS has been assessed through the findings of past studies utilising the KADDS. The KADDS overall score has found to be related to prior experience/contact and the amount of contact with an ADHD child, with higher knowledge of ADHD being reported with those participants who have had more exposure to an ADHD child (Scuitto *et al.*, 2000; Scuitto & Terjesen, 2004). Therefore, the KADDS is reported to be sensitive to the knowledge gained by direct interaction with ADHD children (Scuitto, & Feldhammer, 2005). The KADDS score is also influenced by the amount of literature that individuals have read about ADHD (Scuitto *et al.*, 2000; Scuitto & Terjesen, 2004).

2.3.4. Questionnaire: Part C: Attribution measures.

2.3.4.1. Written Analogues

When examining causal attributions written analogues have been found to be just as successful in assessing attribution styles as video-clips, or recall of child misbehaviours and compliance (Johnston & Freeman, 1997). Written analogues were chosen due to their ability to offer more experimental control than other methods used, as the same child behaviour can be presented to all of the mothers in the study (Johnston & Freeman, 1997).

The author of the current study was given permission by Professor Charlotte Johnston (personal communication 9 February 2005) to use the scenarios of child behaviour in the ‘Written analogue questionnaire’ (WAQ) developed by Johnston & Freeman (1997). Although these scenarios have been used in American studies assessing causal attributions for ADHD, they were not considered appropriate to use in the UK. Two

written analogues/scenarios developed specifically for the study, were presented to all of the participants in the study. One scenario described a child showing symptoms of inattention, whereas the second description depicted a child exhibiting hyperactive symptoms. The symptoms used to describe inattentive and hyperactive behaviours were taken from the diagnostic criteria for ADHD stipulated in DSM-IV-TR (APA, 2000), which is routinely used in diagnosing ADHD in the UK (DoH, 2006). To make the descriptions more reality-based, for mothers the descriptions described the child's inattentive behaviours in the classroom environment and the hyperactive-impulsive behaviours were depicted in the home environment. For teachers, both inattentive and hyperactive-impulsive behaviours were depicted as occurring in the school environment (see Appendix D for hyperactive-impulsive vignette).

2.3.4.2. Rating of Causal Attributions.

Participants were asked to rate the causes of the behaviour depicted in the vignette using a rating scale developed by Johnston & Freeman (1997). The rating scales used in Johnston & Freeman's (1997) 'Written Analogue Questionnaire' (WAQ) asks respondents to imagine the child in the scenario and rate the degree to which the behaviour was due to external-internal (Locus), stable-unstable (Stability), specific-global (Globality) and controllable-uncontrollable (Controllability) factors on a likert scale of 1-10². These dimensions, in particular, were seen as reflecting the underlying properties of causal attributions (Weiner, 2000). Permission was given by Professor Charlotte Johnston to use the WAQ's rating scale. As the WAQ has only been used in USA studies, the questions were piloted on a group of eight mothers and eight teachers.

² See Table 2 for operational definitions and scoring criterion for causal attribution dimensions.

Many of the mothers experienced difficulties understanding the questions and the revisions that were necessary are shown in Appendix F.

In line with the findings of past research, participants were also asked ‘how much a problem they thought this behaviour was’ (ranging from ‘not at all’ to ‘very much’) and their opinions around how responsible the parent/teacher were for the child’s behaviour (ranging from ‘not at all responsible to ‘very responsible’).

2.3.4.3. Scoring the Written Analogue Questionnaire.

Raw scores were obtained for each of these attributional dimensions. Scores on the causal dimensions range from 1-10. In line with the author’s suggestions, higher scores on these dimensions, scores of 6 and above on the likert scales, were seen to indicate causal attributions of internal locus, uncontrollable, global and stable factors.

2.3.5. Questionnaire: Part C: Help-seeking behaviours.

For each scenario presented, participants were asked to rate the likelihood of whether they would seek help for a child displaying the behaviours depicted in the scenarios using a 10-point scale³. This was taken as the measure of help-seeking. A ten-point scale was chosen as participants were asked to measure attributions using a 10-point scale, and therefore changing the scale may have created confusion.

³ See Table for definition and scoring criteria for help-seeking variable.

2.4. Research Procedure.

2.4.1. Ethical Approval.

This study was considered and approved by the Research and Development Operation Group, Leicestershire Partnership NHS Trust (see Appendix G). The trust formally agreed to act as the research sponsor and the Principal Investigator was covered by Trust Research Indemnity (see Appendix G). The School of Psychology, University of Leicester, Ethics Committee also approved the study (see Appendix H).

2.4.2. Study design

The study was preceded by a pilot study, which was conducted on a small number of participants from the target population from outside the Leicestershire Region. The pilot study comprised eight teachers and eight mothers with an aim of checking the completion time and wording of the questionnaire. Following feedback, several amendments were made (see Appendix E & F). In description 1 and 2 of Part C of the questionnaire, the child's age was inserted, as one respondent was unclear about the child's age, which she felt would influence her perceptions of the child's behaviour. Question 4 of Part C was simplified as one respondent reported that she had to read this question several times before understanding it.

2.4.3. Data collection.

2.4.3.1. Teachers.

Primary schools in the Leicester City and Leicestershire County region were selected.

Due to time-constraints and the small-scale nature of the study, schools with the highest

number of pupils enrolled were chosen as this was considered an appropriate way of accessing a large number of teachers in a small time scale. Head teachers of the selected schools were written to and telephoned to assess their interest in participating in the study. The principal researcher then met with the head teachers of the selected schools to discuss the study in more detail, discuss the information sheet (see Appendix I) and gain consent, on behalf of the school and school governors, to recruit the participants (see Appendix J). Eleven schools agreed to participate.

Two weeks prior to the agreed start date for data collection a letter was sent to each of the qualified female teachers in the school. This letter outlined the research and included an information sheet and an 'opt-out' consent form (Appendix K), which allowed teachers the option to opt-out of the study, without giving a reason. Teachers were asked to return these slips to the head teacher in an envelope, which was provided. Out of 115 teachers, only 2 teachers formally opted out of the study. The names of the teachers were given to the head teacher and they were not given a questionnaire. The appropriate number of questionnaires was then given to each head teacher, who was asked to distribute them to the remaining teachers. Attached to the questionnaires was a self-addressed envelope so they could be returned directly to the Principal Researcher. Sixty-nine teachers returned the questionnaires, indicating a 61% response rate.

2.4.3.2. Mothers.

The first five schools recruited gave consent for the researcher to access mothers of 7 or 8-year old children (see Appendix J for copy of school consent form). From each school one Year Three class was accessed. A letter was sent to all of the mothers of this

class inviting them to take part in the research project and giving them the opportunity to opt out of the study (See Appendix L). Attached to this letter was an information sheet (see Appendix I). Out of 163 mothers, only 8 formally opted out of the study. Sixty-two mothers participated in the study, indicating a 43% response rate. Eighty-three of the mothers sampled did not opt-out of the study or return the questionnaire indicating a 53% drop-out rate.

2.4.4. Dissemination.

Once data collection had been completed and the results analysed, written feedback was given to the mothers and teachers in the host schools (see Appendix M). Verbal feedback of the results will also be arranged for the teachers in July 2006. The results of the study will also be disseminated through journal publications and at a poster presentation at Children and Young Person's conference, a Division of the British Psychological Society, in September 2006.

2.5. Ethical considerations.

2.5.1. Confidentiality.

To ensure anonymity and to comply with the Data Protection Act (1998), all of the data was kept under secure conditions. Each school recruited for the study was given a code and each questionnaire was marked with a code in order to identify the school. It was agreed that all of the personal details of the schools participating in the study would be made anonymous in all published materials.

2.5.2. Consent.

Prior to data collection, written consent was obtained from the head teacher, on behalf of the school governors, to send correspondence regarding the project to staff and mothers in the school. Both mothers and teachers were given an information sheet and an opt-out form, which they were asked to return if they did not wish to take part in the study.

2.5.3. Incentives.

Individual teachers and mothers were not compensated for their participation; however, a £2 book voucher was given to the school funds, for example the school library, for each completed parent and teacher questionnaire. An incentive was given directly to the schools rather than to the individual participants to avoid being seen as an enticement for individuals to take part in the study, but rather as a thank-you to the schools for their participation.

3. Results.

Data collected from this study were analysed using the Statistical Package of the Social Sciences Version 12 (SPSS, V12.0).

3.1. Data screening.

Data were initially screened to select which statistical tests would be suitable to be used for the analysis. To satisfy the assumptions for the usage of parametric tests, that being homogeneity of variance, normal distribution of data and of interval/ratio measurement (Clark-Carter, 2004), measures used in the study were checked for skewedness and normality by visual inspection. Visual inspection of the data highlighted the presence of negative skews on the “locus causality” “stability causality”, “help-seeking” and “problem perception” dimensions for both inattentive and hyperactive behaviours. Scores on the KADDS and the “controllability causality” dimensions were found to be distributed normally. Parametric and non-parametric tests were used according to whether the data (the residuals for the General Linear Model) were normally distributed. A significance level, or alpha level, of 0.05 was used throughout this study, as this level is considered to be adequate for social science research (Coolican, 2004).

3.2. Reliability of the data.

The internal consistency, Cronbach’s Alpha, was calculated across both samples to obtain the internal reliability of each measure used in the study and the results are shown in Table 4.

Table 4. Cronbach Alphas of the study’s measures.

Measure	Cronbach’s alpha
Knowledge of Attention Deficit Disorder Scale (KADDS)	0.811
Attribution questionnaire for Inattentive scenario	0.638
Attribution questionnaire for Hyperactive-impulsive scenario	0.697

Reliability analyses indicated that the KADDS possessed an adequate level of internal consistency, with the level being above the widely accepted social science cut-off of 0.7 (Clarke-Carter, 2004). The reliability analyses for both of the attribution questionnaires were slightly below the 0.7 level and therefore may reflect a general deficiency in these measures (see page 99 for discussion).

3.3. Descriptive statistics.

3.3.1. Demographic information of participants.

Out of the 131 participants taking part in this study, there were 62 mothers and 69 teachers. Table 5 clearly shows that mothers mainly fell within the age bracket of 31-40 years, whilst teachers were more evenly spread over the age categories. In both of the participant groups, few people from ethnic minority backgrounds completed the questionnaires, with the majority of the questionnaires being completed by people who described themselves as White-British. With regards to the sources of information about ADHD, both groups indicated more than one information source, with mothers highlighting television as a main information source whilst teachers gained information predominantly from other teachers.

Table 5. Demographic information of participant groups.

	Mothers (N=62)	Teachers (N=69)
Age		
Under 30	12 (19.4%)	16 (23.2%)
31-40	34 (54.8%)	18 (26.1%)
41-50	16 (25.8%)	15 (21.7%)
Above 50	0	20 (29.0%)
Ethnicity *		
White	55 (88.7%)	65 (94.2%)
Non-White	7 (11.3%)	4 (5.8%)
Information Sources		
Television	14 (22.6%)	1 (1.4%)
Newspaper	1 (1.6%)	1 (1.4%)
Teachers	2 (3.2%)	8 (11.6%)
Leaflets	1 (1.6%)	0
Other	5 (8.1%)	4 (5.8%)
More than one source	39 (62.9)	55 (79.8%)

* Due to small numbers of ethnic groups participating in the study, participants were coded as “white” and “non-whites”, based upon their self-descriptions.

3.3.2. Teachers experience of ADHD children.

As part of the demographic section on the teachers’ questionnaire, information was sought about each teacher’s experience of working with children with ADHD. Table 6 shows their answers to these questions.

Table 6. Teachers’ experience of working with children with ADHD.

Question	Response (N=69)	
	Yes	No
Have you had any contact with children diagnosed with ADHD?	<div>53 (76.8%)</div> <div>↓</div> <div>Mean number taught: 2</div>	<div>16 (23.2%)</div>
Have you had much contact with specialists with regards to diagnosing and treating ADHD?	19 (27.5%)	50 (72.5%)
Have you helped in the process of diagnosing ADHD?	15 (21.7%)	54 (78.3%)
During teacher training were you taught about ADHD?	14 (20.3%)	55 (79.7%)
Have you received any additional training about ADHD since you began teaching?	21 (30.4%)	48 (69.6%)
Do mothers frequently ask you advice about ADHD?	14 (20.1%)	55 (79.9%)

The sample of teachers had a mean of 15.6 years of teaching experience. As indicated in Table 6, the majority of teachers (76.8%) reported having had contact with children diagnosed with ADHD; however, a large proportion (72.5%) had not had contact with specialists with regards to diagnosing and treating ADHD or been involved in the process of diagnosis (78.3%). Surprisingly a large percentage (79.9%) of these teachers stated that they had received no training about ADHD whilst undertaking teacher training and had not undertaken any additional training in this area (69.9%). The majority (79.9%) reported that parents did not ask them for advice about ADHD.

3.4. Relationships between variables.

Prior to statistical analysis, Spearman's rho⁴ was used to examine the relationships between the variables used in the study. A correlation matrix of these analyses can be seen in Appendix N. For simplicity, and in relation to the aims and hypotheses of this study, separate analyses were conducted for both the parent and teacher sample to examine the relationships between the variables used to rate a child displaying "inattentive behaviours" and also the relationships between the variables used to rate a child displaying "hyperactive-impulsive". For both behaviours a number of significant relationships was found. Using the correlation matrices multicollinearity⁵ was assessed. As all of the correlation coefficients were considered to be low, below .80 (Field, 2005), multicollinearity was not considered to be an issue.

3.5. Addressing the research questions.

3.5.1. Research Question 1.

Do knowledge of ADHD, causal attributions and perceptions of the problematic nature of the behaviours predict the likelihood that mothers and teachers will seek help for a child displaying inattentive and hyperactive-impulsive behaviours?

A General Linear Model (GLM) was used to (a) discover which variables individually predicted help-seeking for inattentive and hyperactive-impulsive behaviours and (b) specify which candidate variables independently predicted help-seeking, when adjusting for the effects of the other variables, for the two core ADHD behaviours. The GLM

⁴ Spearman's Rho was used due to non-normality of the data.

⁵ Multicollinearity exists when a strong correlation is present between two or more predictors in a regression model (Field, 2005). Multicollinearity makes it difficult to assess the individual importance of predictors in a regression model (Field, 2005).

was used instead of multiple regression due to its ability to use categorical predictor variables in its equation (Field, 2005). The dataset of the current study was checked for its ability to satisfy the main assumptions when using the GLM, namely that the residuals of the dependent variables are normally distributed and that no relationship exists between the predicted and residual values of the dependent variables (Miles & Shevlin, 2001). The data of the current study fulfilled these assumptions. In interpreting effect sizes, Cohen's (1988) conventions were used. Cohen (ibid.) has defined R^2 in terms of a small effect size ($R^2=0.02$), a medium effect size ($R^2=0.13$) and a large effect size ($R^2=0.26$).

***H1:** Higher scores of help-seeking reported by mothers and teachers for a child displaying inattentive behaviours will be significantly predicted by higher knowledge scores, higher "internal-locus", "Uncontrollability", "Globality", "Instability" and "problem perception" scores.*

Univariate analyses.

In the first instance, separate univariate analyses, using the GLM, were conducted to (a) highlight which variables predicted help-seeking for inattentive behaviours, when controlling for any differences in scores between mothers and teachers on these measures, and (b) to specify which candidate variables should be used in the multivariate analyses⁶.

⁶ It is acknowledged that multiple testing can result in an increase in the number of type I errors. Univariate analyses were carried out as an exploratory step to weed out the poorest predictors before the final, multivariable, analysis was carried out (personal Communication: Trent Institute for Health Service Research, February 2006).

When controlling for differences between mothers and teachers, higher scores of knowledge ($F=5.096, d.f.=1, p<.05$), problem perception ($F=59.887, d.f.=1, p<.001$), uncontrollability ($F=9.366, d.f.=1, p<.05$) and stability of the behaviours ($F=25.253, d.f.=1, p<.001$) significantly predicted help-seeking for inattentive behaviours (see Appendix O for results of univariate analyses). Perceptions regarding the problematic nature of the inattentive behaviours were found to account for 37.8% of the variance ($R^2=.378$), suggesting that this variable may be the strongest predictor of help-seeking for inattentive behaviours

Multivariate analysis.

To specify the variables that most strongly and independently predicted help-seeking for inattentive behaviours, only the significant variables highlighted in the univariate analyses were included in the multivariate GLM analysis. The result of this analysis is shown in Table 7.

Table 7. Multivariate analysis of the relationships between “Predictor Variables” and Help-seeking for Inattentive behaviours.

Predictor Variables	F Value	P-Value
KADDS	1.586	.210
Problem perception	28.142	<.001**
Controllability	.502	.480
Stability	1.130	.290
Group (Mothers Vs Teachers)	24.635	<.001**

NB: * $p<0.05$; ** $p<0.01$
 $R^2 = 0.399$ (large effect size: $R^2>0.26$).

As predicted, perceptions about the problematic nature of the inattentive behaviours predicted help-seeking behaviours for both mothers and teachers ($F=28.283, d.f.=1, p<0.001$), when adjusting for the effects of the other predictor variables used in the

analysis. The results of this analysis also indicated that the participants group (mothers/teachers) also predicted help-seeking, with mothers being found more likely to seek help for a child displaying inattentive behaviours than teachers ($F=22.962$, $d.f.=1$, $p<0.001$). This model, using the independent variables highlighted from the univariate analysis, accounted for 39.9% of the variance ($R^2=0.399$).

The results of the multivariate analysis showed partial support for the hypothesis suggesting that while the combination of knowledge and causal attributions of controllability and stability significantly predicted help-seeking for inattentive behaviours, accounting for 39.9% of the variance, perceptions about the problematic nature of the behaviour were the strongest predictors.

H2: *Higher scores of help-seeking reported by mothers and teachers for a child displaying hyperactive-impulsive behaviours will be significantly predicted by higher scores of knowledge, higher ‘internal-locus’, ”Uncontrollability”, “Globality”, ”Stability” and “problem perception” scores.*

Univariate analyses.

The results of these analyses indicated that perceptions about the problematic nature of the behaviours ($F=60.130$, $d.f.=1$, $p<.001$), internal locus ($F=4.633$, $d.f.=1$, $p<.033$), uncontrollability ($F=22.395$, $d.f.=1$, $p<.001$), globality ($F=4.866$, $d.f.=1$, $p<.029$) and stability ($F=13.309$, $d.f.=1$, $p<.001$) significantly predicted help-seeking for hyperactive-impulsive behaviours (see Appendix O for results of univariate analyses). Perceptions regarding the problematic nature of the behaviour were found to be the

strongest predictor of help-seeking for hyperactive-impulsive behaviours, with this variable accounting for 8% of the variance ($R^2=0.381$).

Multivariate analysis.

To specify the variables that most strongly and independently predicted help-seeking for hyperactive-impulsive behaviours, only the significant variables highlighted in the univariate analyses were included in the multivariate GLM analysis. The result of this analysis is shown in Table 8.

Table 8. Multivariate analysis of the relationships between “Predictor Variables” and Help-seeking for Hyperactive-Impulsive behaviours.

Predictor Variables	F Value	P-Value
Problem perception	35.633	<.001**
Locus	.459	.499
Controllability	9.929	.002**
Globality	.023	.880
Stability	2.595	.110
Group (Mothers Vs teachers)	5.727	.018*

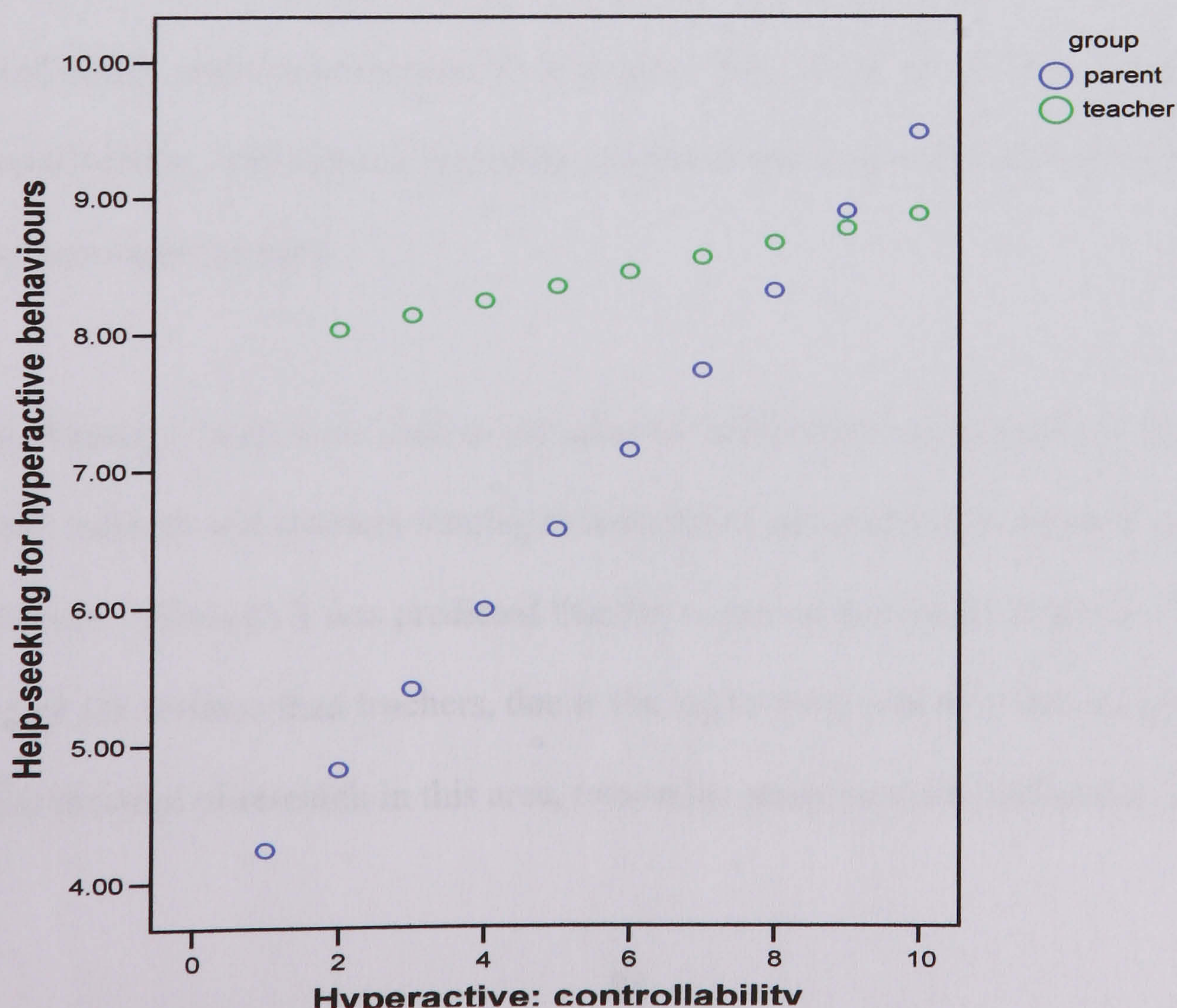
NB: * $p<0.05$; ** $p<0.01$
 $R^2 = 0.457$ (large effect size: $R^2>0.26$).

From this table, it can be seen that perceptions about the problematic nature of the behaviour and attributions of uncontrollability made significant independent contributions to ratings of help-seeking, when controlling for differences between mothers and teachers and the other predictor variables used in the analysis. The results of this analysis also indicated that the participants group (mothers/teachers) also predicted help-seeking, with teachers being more likely to seek help for a child displaying hyperactive-impulsive behaviours than mothers ($F=22.962$, $d.f.=1$, $p<0.001$). This model, using the independent variables highlighted from the univariate analysis,

accounted for 45.7% of the variance ($R^2=0.457$), which is considered to be a large effect size (Cohen, 1988).

Within this analysis, interactions between participant group (mothers/teachers) and significant predictor variables were also computed. The results of this analysis showed highly significant interactions between the participants group (mothers/teachers) and scores on the predictor variable of uncontrollability ($F=10.034$, $d.f.=2$, $p<0.001$). This interaction indicated that the relationship between the predictor variable “uncontrollability” and help-seeking for hyperactive-impulsive behaviours was different for mothers and teachers. From examining the interaction plot shown in Figure 5, the steeper line found for the mothers indicates the causal dimensions of uncontrollability had more of a significant effect in predicting mothers’ help-seeking behaviours for hyperactive-impulsive symptoms than for teachers.

Figure 5. Graph of the interaction between ‘group’ and causal attribution dimension of ‘uncontrollability’ on help-seeking for hyperactive-impulsive behaviours.



The results of the multivariate analysis showed partial support for the hypothesis indicating that although causal attributions significantly predicted help-seeking for hyperactive-impulsive behaviours, accounting for 45.7% of the variance, perceptions regarding the problematic nature of the behaviours were the strongest predictors of help-seeking in both mothers and teachers. Perceptions regarding the uncontrollability of the behaviours predicted help-seeking in mothers rather than teachers.

3.5.2. Research Question 2.

Are there any differences in the causal attributions mothers and teachers make for inattentive and hyperactive behaviours?

Taking into account the findings of past research, the following hypotheses were investigated:

H3: Mothers will have higher scores on the causal attribution dimensions of locus, controllability, stability and globality (reflecting attributions of internal causation, uncontrollability, stability and globality) for inattentive and hyperactive-impulsive behaviours than teachers.

Mann Whitney U tests were used to examine the differences in causal attributions between mothers and teachers relating to inattentive and hyperactive-impulsive behaviours. Although it was predicted that the scores on the causal dimensions would be higher for mothers than teachers, due to the exploratory nature of the current study and the shortage of research in this area, two-tailed analyses were carried out. Results

are summarised in Table 9 where the only significant difference found was regarding the perception about the problematic nature of hyperactive-impulsive behaviours, with teachers rating hyperactive-impulsive behaviours as more of a problem than mothers. As indicated in Table 9 measures of central tendency (*Median*), indicated that both mothers and teachers made child centred attributions for the causes of both inattentive and hyperactive-behaviours. Higher scores on the attribution measures indicated that both mothers and teachers saw these behaviours as being caused by internal, uncontrollable, stable and global factors.

Together these results provide only partial support for the hypothesis, suggesting that mothers perceived inattentive behaviours as significantly more of a problem than teachers. Teachers were found to rate hyperactive-impulsive behaviours as more problematic than mothers.

Table 9. Differences between mothers and teachers on causal attribution dimensions

ADHD symptom	Causal attribution	Participant Group		Z score	p-value
		Mothers <i>Median</i>	Teachers <i>Median</i>		
Inattentive	Problem perception	8	8	-1.324	.985
	Locus	7	7	-0.19	.126
	Controllability	7	6	-1.528	.126
	Stability	9	9	-0.17	.987
	Globality	8	8	-0.19	.985
	Help-seeking	10	8	-3.777	<.001**
Hyperactive-impulsive	Problem perception	8	9	-3.011	.003**
	Locus	7	8	-1.541	.123
	Controllability	6	5	-0.235	.235
	Globality	8	9	-1.279	.261
	Stability	8	8	-1.027	.304
	Help-seeking	8	9	-2.477	.013*

Note: Scores on attribution measures range from 1-10. Higher scores on these scales indicate a tendency to attribute behaviours to an internal locus, uncontrollable, global and stable factors

NB: **p*<0.05; ***p*<0.01

H4: *In relation to hyperactive-impulsive behaviour, higher scores will be given for inattentive behaviours on the causal attributions of locus, uncontrollability, globality and stability.*

Mothers.

Wilcoxon Matched-Pairs Signed Ranks Tests were conducted to identify any differences between the causal attributions mothers made for inattentive and hyperactive behaviours. Although a direction was predicted based upon past research in this area, due to the exploratory nature of the current study and the shortage of research in this area two-tailed analysis were carried out. The results are summarised in Table 10.

Table 10. Differences in the causal attributions mothers gave for inattentive and hyperactive-impulsive behaviours.

Causal attribution Dimension	ADHD Symptoms		Z score	N-Ties	p-value
	Inattention <i>Median</i>	Hyperactive- Impulsive <i>Median</i>			
Problem perception	8	8	-1.236	17	0.216
Locus	7	7	-0.040	17	0.968
Controllability	7	6	-1.626	19	0.104
Globality	9	8	-0.613	26	0.540
Stability	8	8	-1.322	30	0.186
Help-seeking	10	8	-4.487	25	<.001**

Note: Scores on attribution measures range from 1-10. Higher scores on these scales indicate a tendency to attribute behaviours to an internal locus, uncontrollable, global and stable factors

NB: **p*<0.05; ***p*<0.01

The results of this analysis indicated that there were no significant differences in the causal attributions (locus, controllability, globality and stability) made by mothers for

inattentive and hyperactive-impulsive behaviours. The analysis did show that mothers significantly rated help-seeking higher for inattentive behaviours than for hyperactive behaviours.

Teachers.

Wilcoxon matched-Pairs Signed Ranks Tests were conducted to identify any differences between the causal attributions teachers made for inattentive and hyperactive behaviours. The results are summarised in Table 11.

The results of this analysis indicated that there were no significant differences in the causal attributions made by teachers for inattentive and hyperactive-impulsive behaviours. The analysis did show that teachers significantly rated hyperactive-impulsive behaviours as more problematic and gave higher ratings of help-seeking for hyperactive-impulsive behaviours than inattentive behaviours.

Table 11. Differences in the causal attributions teachers gave for inattentive and hyperactive-impulsive behaviours.

Causal attribution Dimension	ADHD Symptoms		Z score	N-Ties	p-value
	Inattention <i>Median</i>	Hyperactive-Impulsive <i>Median</i>			
Problem perception	8	9	-3.719	22	<.001**
Locus	7	8	-1.892	19	0.059
Controllability	6	5	-1.203	21	0.229
Stability	9	9	-0.256	26	0.798
Globality	8	8	-1.646	265	0.100
Help-seeking	8	9	-3.648	25	<.001**

Note: Scores on attribution measures range from 1-10. Higher scores on these scales indicate a tendency to attribute behaviours to an internal locus, uncontrollable, global and stable factors

NB: * $p<0.05$; ** $p<0.01$

Together these results show that there is no difference in the causal attributions mothers and teachers give for inattentive and hyperactive-impulsive behaviours and does not show support for the hypothesis.

3.5.3. Research Question 3.

Is there any difference between mothers and teachers in their knowledge about ADHD?

Taking into account past research findings examining the difference in knowledge of ADHD between mothers and teachers, the following hypothesis was investigated:

H5: *Mothers will possess a higher score on the Knowledge of Attention Deficit Disorder Scale than teachers.*

As scores on the KADDS were normally distributed, an independent samples t-test was used to compare the differences in knowledge between mothers and teachers. The means, standard deviations and statistical analysis are shown below in Table 12.

Although teachers scored higher on the KADDS, the analysis revealed no significant differences in the overall knowledge held by mothers and teachers about ADHD. A significant difference was found on one of the subscales of the KADDS, which indicated that teachers were significantly more knowledgeable about the “general nature” (causes and prognosis) of ADHD than mothers. The results of this analysis were not what was predicted and does not support the hypothesis.

Table 12. Group comparisons on knowledge of ADHD.

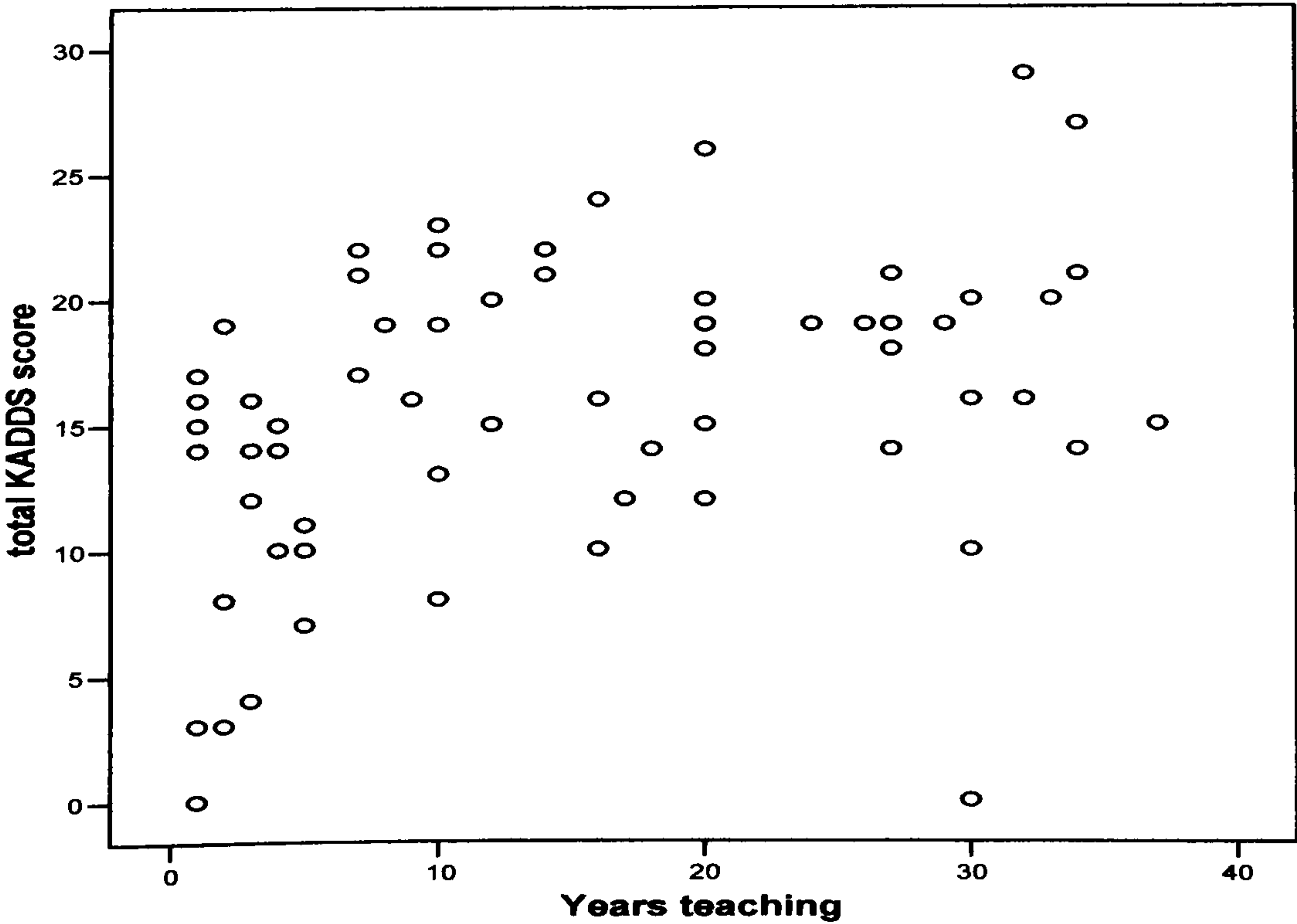
KADDS Sub-scale	No of items and possible score.	Participant Group		<i>T</i>	<i>P</i>
		Mothers Mean score & (SD)	Teachers Mean score and (SD)		
KADDS-Total	36	14.03 (6.062)	15.61 (6.255)	-1.46	0.146
KADDS-General	15	4.40 (2.670)	5.99 (2.800)	-3.301	<0.01*
KADDS-Symptom	9	4.77 (2.084)	5.13 (2.141)	-0.963	0.337
KADDS-Treatment	12	4.85 (2.311)	4.448 (2.207)	0.954	0.342

Note: KADDS= Knowledge of Attention Deficit Disorder Scale.

NB: * $p<0.05$; ** $p<0.01$

For teachers, a correlational analysis was carried out to examine the relationship between their knowledge of ADHD and the number of years they had been teaching. Spearman’s Rho was used, due to non-normality of the data, and the results indicated a significant relationship between the number of years teaching and knowledge of ADHD (Spearman’s $\rho=.407$, $n=69$, $p<0.001$). The relationship between these variables can be seen in the scatterplot shown in figure 2 below.

Figure 6. Scatter plot showing the relationship between the number of years teaching and knowledge of ADHD.



4. Discussion.

Initially, the results will be reviewed and discussed in relation to the literature surrounding this area. The clinical implications of the findings will be discussed alongside an appraisal of the methodology used. Finally, new avenues within the area of help-seeking for ADHD will be discussed.

4.1. Summary of Research Aims and Hypotheses.

Past surveys suggest that there is a low use of specialist services and an underdiagnosis of ADHD (Meltzer *et al.*, 2000). As children rarely refer themselves to services, it is important to ascertain any differences in perceptions held towards ADHD in mothers and teachers, which in turn may affect problem recognition, decisions to seek help and later stages of assessment and diagnosis (Morrissey-Kane & Prinz, 1999). For these reasons, survey studies, such as the current study, that investigate the factors influencing service use are of clinical importance (Sayal *et al.*, 2003).

The current study was exploratory in attempting to identify whether knowledge of ADHD and the attributions given for the causes of ADHD predicted help-seeking in mothers and teachers for a child displaying the core symptoms of ADHD (inattentive and hyperactive-impulsive behaviours).

4.2. Summary of the Results.

A summary of the results in relation to the hypotheses being tested are presented in Table 13.

Table 13. Results of the study in relation to the hypotheses being tested.

Question	Hypothesis	Outcome	Main findings.
1	H1 Higher scores of help-seeking reported by mothers and teachers for a child displaying inattentive behaviours will be significantly predicted by higher knowledge scores, higher internal-locus, uncontrollability, globality, stability and problem perception scores.	Partially Supported	Perceptions regarding the problematic nature of the behaviour were found to be the strongest predictors of help-seeking behaviours for mothers and teachers. Mothers were found to be more likely to seek help for a child displaying inattentive behaviours than teachers.
1	H2 Higher scores of help-seeking reported by mothers and teachers for a child displaying hyperactive-impulsive behaviours will be significantly predicted by higher scores of knowledge, higher 'internal-locus', 'uncontrollability', 'globality', 'stability' and 'problem perception' scores.	Partially Supported	Perceptions regarding the problematic nature of the behaviour were found to be the strongest predictors of help-seeking behaviours for both mothers and teachers. Teachers were found to be more likely to seek help for a child displaying hyperactive-impulsive behaviours than mothers. Causal attributions regarding the 'uncontrollable' nature of the behaviour predicted help-seeking in mothers rather than teachers.
2	H3. Mothers will have higher scores on the causal attribution dimensions of locus, controllability, stability and globality (reflecting attributions of internal causation, uncontrollability, stability and globality) for inattentive and hyperactive-impulsive behaviours than teachers	Not supported	No significant differences found between mothers and teachers on the causal attribution measures. Teachers were found to rate hyperactive-impulsive behaviours as more problematic than mothers. Mothers found to rate inattentive behaviours as more problematic than teachers.
2	H4. In relation to hyperactive-impulsive behaviour, higher scores will be given for inattentive behaviours on the causal attributions of locus, uncontrollability, globality and stability.	Not supported	No significant differences were found in participants scores on the causal attribution measures when rating inattentive and hyperactive-impulsive scenario's
3	H5 Mothers will possess a higher score on the Knowledge Attention Deficit Disorder Scale than teachers.	Not Supported	No significant differences were found between mothers and teachers in their overall knowledge of ADHD. Teachers were found to be more knowledgeable about the general aspects of ADHD

From examining Table 13, the main findings of this study were as follows:

- When mothers and teachers saw the behaviours associated with ADHD as problematic they are more likely to seek help.
- Causal attributions have an influential effect in predicting whether or not mothers and teachers seek help.
- Knowledge predicted help-seeking for inattentive behaviours. Both mothers and teachers were found to be similar in their knowledge about ADHD, but teachers were found to be significantly more knowledgeable about the causes and prognosis of ADHD.
- Both mothers and teachers attributed the causes of these behaviours to factors residing in the child and uncontrollable, perceiving the behaviours to be pervasive over times and situations.

4.3. Results in relation to the literature.

4.3.1. Perceptions regarding the problematic nature of ADHD behaviours and help-seeking.

Parental perceptions of a child's behaviour as a problem have been found to be important predictors, or pre-requisites for, specialist mental health service use (Sayal, *et al.*, 2002; Sayal, *et al.*, 2003). Past research has tended to focus upon the factors influencing parents help-seeking for "hyperactivity" rather than ADHD.

Recommendations from research suggest that studies should explore whether help-seeking is the same for both inattentive and hyperactive-impulsive behaviours and explore the perceptions teachers hold towards ADHD (Sayal & Taylor, 2005). The current study is unique in its attempt to address these issues.

In line with findings of previous research (Sayal, *et al.*, 2002; Sayal, *et al.*, 2003), the current study found that when mothers and teachers saw the behaviours associated with ADHD as problematic they were more likely to seek help for a fictional child displaying inattentive and hyperactive behaviours. Teachers were also found to rate themselves as being more likely to seek help for a child displaying hyperactive-impulsive behaviours, whilst mothers rated help-seeking higher for a child displaying inattentive behaviours. In conjunction with this finding, teachers rated hyperactive-impulsive behaviours as more problematic than mothers. *So why should this be the case?*

Teachers are considered to be more sensitive at identifying children with hyperactivity than parents (Goodman, *et al.*, 2000). Research indicates that teachers perceive hyperactive-impulsive behaviours as more disruptive in the classroom than inattentive behaviours, increasing the likelihood that they will refer a child for an evaluation of ADHD (Scuitto *et al.*, 2004). In light of past research, it could be hypothesised that the teachers in the current study rated hyperactive-impulsive behaviours as more problematic because they imagined these behaviours as being more of a disruption to the classroom environment than inattentive behaviours, therefore, influencing their opinion that help was required. Research, however, does not shed light upon why inattentive behaviours would be seen as more of a problem for mothers, but it could be hypothesised that these behaviours may be more problematic in the home environment. An example of this would be when a parent ask their child to complete a task, such as going to the shop to obtain specific items, and the child is unable to do so because they have not been listening to the instructions, i.e. returning home with the wrong grocery items.

4.3.2. Causal attributions and help-seeking.

Studies examining the factors influencing help-seeking have highlighted the influential role causal attributions play in the help-seeking process for ADHD (Arcia & Fernández, 1998; Bussing, Schoenberg *et al.*, 1998; Bussing, Zima *et al.*, 2003; Bussing *et al.*, 2005). Past literature has, however, failed to identify the attributions teachers' hold for the causes of ADHD, and how these may impact on their recognition of, and decisions to seek help for, this disorder.

The findings of this study suggested that mothers and teachers were more likely to seek help when they perceived *inattentive* behaviours as being caused by factors that were uncontrollable by the child and stable over time. For *hyperactive-impulsive* behaviours, help-seeking was predicted when mothers and teachers attributed the causes of the behaviour to the child's disposition (internal locus) and perceived the behaviours to be uncontrollable by the child, stable over time and pervasive across situations. The results of the current study replicates the findings of a previous study, which found that help-seeking only occurred after mothers had developed attributions that classified ADHD as an organic/medical condition, based upon attributions of internal locus, uncontrollability, stability and globality (Arcia & Fernández, 1998).

Mothers and teachers in the current study made similar attributions for the causes of both inattentive and hyperactive behaviours, suggesting that these behaviours are perceived as being caused by factors that were within the child, uncontrollable, stable over time and pervasive across different situations/environments. Attributing the causes of ADHD to internal, uncontrollable and stable factors is seen to be “*consistent with the neurobiological nature of the disorder and widely adopted chronic disease models.*”

(Johnston & Freeman, 1997, p. 642-3). In other words, the behaviours associated with ADHD are seen as symptoms of an underlying disorder and not within the child's control (Johnston & Freeman, 1997).

The current study serves to add strength to the influential role that causal attributions play in the help-seeking process, demonstrating that child-centred causal attributions, which reinforce the view that the child has a biological and physical condition, are linked to the whether or not mothers and teachers would seek help for a child displaying ADHD symptomatology. The implications of holding such child-centred views have several important consequences in the areas of assessment, diagnosis and treatment of ADHD, and shall be discussed later on in this report.

4.3.3. The relationship between knowledge of ADHD and help-seeking.

Past research has hypothesised that the knowledge parents hold about ADHD may act as a facilitator or barrier in whether they seek help for their child (Bussing, Zima *et al.*, 1998; Bussing, Gary *et al.*, 2003). Lack of knowledge about mental health services in particular, and the interventions they offer, have been found to be a factor that prevents parents from seeking help (Richardson, 2001).

The findings of the current study indicated that when mothers and teachers knew more about the symptoms/causes/treatment of ADHD they rated themselves as being more likely to seek help for a child displaying *inattentive* behaviours. A significant finding was not obtained between knowledge and help-seeking for hyperactive-behaviours. Past research does not clarify why holding more knowledge about ADHD would predict

help-seeking for inattentive behaviours in particular. One possible explanation is that “inattentiveness” is often considered a silent symptom of ADHD that goes unrecognised by parents and teachers (Goodman *et al.*, 2000) and that participants who know more about symptoms/causes/treatment of ADHD were more aware of this symptom, therefore, making them more likely to seek help.

When comparing knowledge, the current study did not find any difference between mothers and teachers with regards to their overall knowledge about ADHD. However, teachers were found to be significantly more knowledgeable about the causes and prognosis of ADHD than mothers. This finding is not consistent with past research, which has indicated that mothers are generally more knowledgeable about ADHD than teachers (West *et al.*, 2005).

One of the surprising findings in this study was the small percentage of teachers who reported having contact with mental health specialists or helped in the process of diagnosing ADHD. Only a small number of teachers (20%) were taught about ADHD during teacher training or had received any additional training about ADHD (30%). The lack of contact between school and mental health professionals when ADHD is being diagnosed and the lack of training teachers receive about ADHD during and after teacher training has been reported in past studies conducted in this area (Barbaressi & Olsen, 1998; Jerome *et al.*, 1994).

4.4. Methodological Critique.

4.4.1. Design.

From early on in the planning stage of this study, it was recognised that the area of help-seeking had a limited psychological literature base. Existing studies appeared to look at help-seeking from a predominantly psychiatric stance using Verhulst and Koot's (1992) model, with psychological factors influencing the process given less attention. It is acknowledged that Verhulst and Koot's model operates a more structural, service, level than that of attribution theory, which operates at an individual level. The use of causal attribution theory in the help-seeking is still in its infancy, with the only studies in this area being limited to a qualitative approach (Arcia & Fernández, 1998; Bussing, Schoenberg *et al.*, 1998).

4.4.2. Sample.

A limitation of the current study was that the majority of the participants completing the questionnaire were predominantly White-British. The researcher attempted to access people from different minority-ethnic backgrounds by targeting schools that were mixed in ethnicity. However, out of 131 participants, only 11 people from minority-ethnic backgrounds returned the questionnaires. The bias of ethnicity of participants in this study is important in light of past research, which indicates that people from minority-ethnic backgrounds use more external-locus attributions to explain the causes of behaviour, have lower levels of knowledge about ADHD, and are less likely to seek help for ADHD than Caucasian parents (Bussing *et al.*, 2003). If more participants from minority-ethnic backgrounds had completed the questionnaires, variations in knowledge, causal attributions and help-seeking may have been detected and added important information to the literature base regarding why so many parents from

minority-ethnic backgrounds do not seek help (Bussing *et al.*, 2003). This bias in participants sampled, therefore, limits the generalisable nature of the results to mothers and teachers from minority-ethnic backgrounds, and raises questions regarding why so few people from minority-ethnic backgrounds completed the questionnaires?

The current study specifically targeted mothers of children aged 7-8 years from the general population who did not have a child diagnosed with ADHD (Year 3 children) and teachers from primary/junior schools. The inclusion of only mothers of Year 3 children may mean that the results of the current study may not be generalisable to mothers of older children or other mothers who suspect that their children may have ADHD. It is also questionable whether mothers and teachers are comparable in their experience of children, with mothers having more limited experience of children and teachers coming into contact with a wider range of children.

Discrepancies in response rates between mothers and teachers were also noted (43% and 61% response rate respectively). This discrepancy may have indicated that teachers may have had more of a vested interest in returning the questionnaires than mothers (i.e. to obtain the vouchers) and therefore the sample of teachers obtained for this study may not be a representative sample of teachers.

Due to the practical and financial constraints of the study only mothers and female teachers were accessed. It is possible that the results may have been different if fathers and male teachers participated in the study.

4.4.3. Measures.

In the current study participants were asked to respond to a vignette describing a hypothetical child displaying symptoms of inattentive and hyperactive-impulsive behaviours. Although vignettes are seen as an effective way of accessing causal attributions (Johnston & Freeman, 1997; Johnston *et al.*, 2000), they are criticised for their lack of reality (Hewstone, 1983). It is possible that assessing causal attributions by using written analogues was not appropriate when attempting to assess the contribution they make to the help-seeking process. The artificial nature of vignettes may suggest that there may be differences in what mothers and teachers *believe* they would do to what they would *actually* do when confronted with a real child with real problems. Participants in the current study were also not told that the behaviours described in the vignettes reflected a diagnosis of ADHD and therefore the attributions generated cannot be considered as concerning the disorder of ADHD per se, but rather their attributions to the behaviours reflecting the core symptoms of ADHD.

With respects to the attribution questionnaires, the internal consistencies obtained for both of the attribution questionnaires were just below the accepted level. This may reflect a deficiency in these measures, with respects to whether they were measuring attributions in an accurate and reliable manner. The use of Likert scales, and the arbitrary nature of these scales, may have meant that participants did not respond in a consistent and reliable manner.

4.5. Clinical implications of the findings.

The results of this study have several important implications for clinical practice. These shall be discussed and related to a number of clinical areas pertaining to ADHD.

4.5.1. Service delivery and training.

The role of health education is seen as important when considering improvements to services for children with ADHD (Cribb, 2002). To increase recognition of ADHD and promote help-seeking, parental education is required to help parents recognise the disorder and inform them about the potential sources of help (Sayal *et al.*, 2002). The education of parents could be through teachers (Pavaluri *et al.*, 1996), although the current study indicates that teachers may not possess enough knowledge about ADHD to undertake this role. It is argued that there should be closer working relationship between mental health professional and teachers, to provide teachers with information, training, consultation through workshops and during teacher training (Barbaressi & Olsen, 1998; Jerome *et al.*, 1994; Koonce *et al.*, 2004; Pavaluri *et al.*, 1996). However, it is acknowledged that extra resources for Child and Adolescent Mental Health Services would be required to undertake this work and, therefore, media and health promotion could be the agencies to provide parents and teachers with accurate information about ADHD. On a policy level, there is a need to make treatment more accessible, minimising obstacles to help-seeking.

Although the current study found that causal attribution predicted help-seeking for ADHD, the origins of parental beliefs about the causes of ADHD behaviour needs to be considered. Consideration needs to be given to understand whether these beliefs developed due to lack of knowledge, stereotypes or from the media, which is known to

provide incorrect facts about mental health disorders and promote stigma (Hinshaw, 2004; Johnson *et al.*, 2000).

4.5.2. Assessment/diagnosis.

Rating scales are commonly used as a way of screening for ADHD (Dulcan, 1997) and given to parents and teachers to complete. The current study indicated discrepancies in how much a problem mothers and teachers perceived both inattentive and hyperactive-impulsive behaviours. These discrepancies have often been reported in studies assessing the validity of the rating scales commonly used to assess ADHD (Goodman, *et al.*, 2000; Sayal & Taylor, 2005). Controversy exists regarding the use of rating scales in the assessment/diagnosis of ADHD, with some studies finding parental perceptions about child behaviours as being a more accurate indicator of ADHD (Morrissey-Kane & Prinz, 1999), whereas other studies indicate teachers to be more accurate at identifying children with hyperactivity than parents (Goodman, *et al.*, 2000). Discrepancies noted between parents and teachers on rating scales may indicate the varying impact these behaviours have across different settings (Goodman, *et al.*, 2000; Sayal & Taylor, 2005) rather than reflecting a general deficiency in the measures employed. The current study and past research indicates the importance of obtaining both teachers and parents views in the diagnosis of ADHD, which, with the low contact reported in this study between teachers and mental health professional, still does not seem to be occurring.

The assessment of the attributions parents hold towards the causes of their child's behaviour should also be a part of the clinical assessment in any child mental health

service (Bussing, Schoenberg *et al.*, 1998). In assessing childhood mental health problems, clinicians need to ask parents what they believed caused their child's problems, whether the parent feel that the child or themselves can control the behaviours. Attributions can affect the types of interventions that parents are likely to adhere or enrol in (Wright *et al.*, 2000). For example, if a parent believes that a child's behaviours are due to biological/organic causes and are uncontrollable by the child, they are less likely to enrol in behaviour management programmes, which assume that child's behaviour are learnt and that the parent can control them (Hoza, *et al.*, 2000). Therefore, clinicians need to be aware of the attributions parents, children and themselves bring with them, as refusing to acknowledge these attributions may result in parents dropping out of treatments prematurely (Wright *et al.*, 2000).

4.5.3. Treatment.

Both knowledge and attributions held towards ADHD have been found to influence how management strategies are accepted and implemented (McNeal, *et al.*, 2000). Parental attributions in particular have been found to predict engagement, choice, compliance and outcome of treatments in families of children with ADHD (Hoza *et al.*, 2000; Johnston & Ohan, 2005; Morrissey-Kane & Prinz, 1999; Wright *et al.*, 2000). Clinicians need to be aware of the attributions parents hold about the causes of ADHD and the attribution messages that treatments imply, for example medication reinforcing the view that ADHD is due to a chemical imbalance (Hoza *et al.*, 2000; Whalen & Henker, 1976). Clinical education of parents and teachers regarding the causes and treatment of ADHD is required to enhance therapeutic outcome and treatment acceptance (McNeal *et al.*, 2000).

4.6. Future research.

This study successfully showed that knowledge and causal attributions play a significant role in mothers and teachers decisions that help is required for a child displaying symptoms associated with ADHD. Following on from the results of this study, future research needs to assess whether knowledge and causal attributions have a role in predicting help-seeking in parents and teachers from different ethnic backgrounds, including fathers and male teachers.

4.7. Conclusions.

The current study is exploratory in its attempts to identify the factors that influence mothers and teachers decisions that help is required for a child displaying ADHD. Despite methodological limitations, the study shows that knowledge and causal attributions have a significant role in predicting whether help is sought. Important clinical implications are highlighted from this research not only concerning the journey parents and teachers may take before seeking help, but also for subsequent assessment/diagnosis and treatment phases. It is apparent that future research is required within this area.

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Section 3: Critical Appraisal

Critical Appraisal.

The completion of this doctoral research has spanned two years, from my initial ideas about a literature review topic to the submission of the current document. The following document describes my journey through this research process.

1. Choice of research area.

The ideas for the current research arose from my experience of working as an Assistant Psychologist during 2002-2003, where I worked as part of a multidisciplinary team in assessing and diagnosing Attention Deficit Hyperactivity Disorder (ADHD)⁴. Although my role mainly focused upon assessing the cognitive and attentional functioning of the children referred to this clinic, I was drawn to the stories and journeys/routes that parents had taken to receive help for their child. I was intrigued by the different explanations they attended the sessions with; some believing their child had ADHD, some believing they did not, whilst others seemed very angry or sad for attending the clinic. Many of them did not even know what ADHD was. However, these reactions and narratives were never given any attention.

When I began the Doctoral training programme in 2003, I knew I was still interested in researching in the area of ADHD. My research ideas developed when I spoke to a third year trainee clinical psychologist, from the Leicester course, who was also researching in the area of ADHD. As a result of this informal meeting, I made a literature search and wrote an initial literature review, as a requirement of the course, around the

⁴ See Kearney and Horton (2004) for a review of this process.

knowledge and attributions parents, teachers and clinicians make about the causes of ADHD.

As part of the course requirements we were also asked to submit a research proposal to the doctoral programme in order to discuss our preliminary research ideas with two clinical tutors/lecturers from the course. This meeting made me think about the study in an empirical/research stance, i.e. what were the independent variables and the dependent variables and the theory behind the study, and made me realise that my study needed revising. From revisiting the literature and my original reasons regarding why I wanted to conduct a study in this area, I began to review the literature in the area of help-seeking and the factors that made parents seek help for a child who displayed the core symptoms of ADHD. From my reading, it was apparent that little research had been carried within this area and that this was possibly an avenue to explore. I was drawn to the area of attribution theory, as it was a theory I could connect to, it made sense of the experiences I had when working in this area, and seemed to give a psychological perspective to the help-seeking process, which had previously been viewed from a medical/psychiatric stance.

My revised research ideas were subsequently discussed with my research supervisors and my peer group. A recommendation of my peer group was to get user involvement in my study to ascertain whether this area was of clinical importance. I subsequently contacted a local ADHD support group and was invited to one of their monthly meetings. At this meeting I informally discussed my research ideas and was amazed with the responses I had. The mothers in the group felt that this was an important area to research. Many of the mothers reported that, when seeking help for their child, they

knew little about ADHD and felt blamed by other parents, teachers and their own family for their child's behaviours. Most mothers reported that they delayed seeking help because (a) they did not understand what was wrong with their child; (b) thought they were to blame, by teachers in particular, and (c) they did not know where to get help. From this meeting it was made apparent that both knowledge and attributions played an important role in the help-seeking process for ADHD.

2. Literature Review.

As part of the course requirements I was required to produce a literature review. The process of writing such a review was initially a very daunting process, something that I had not done before. As previously mentioned, my initial ideas were around comparing knowledge and casual attributions held about ADHD between parents, teachers and professionals diagnosing the condition and therefore the initial literature review focused upon these areas.

Throughout the course of this research process, and as the study design has changed, my literature review has been re-written several times to make it relevant to the current study. Due to the lack of past studies that have examined the pathway parents and teachers seek help for ADHD, writing the literature review was an exploratory process. Information was gathered from other areas, i.e. studies assessing the help-seeking for general child mental health problem, and delicately related to the area of ADHD. Writing a literature review on uncharted territory was both a challenging and exciting task.

3. Conducting the research.

3.1. Initial planning and questionnaire development.

After specifying my research questions and developing testable hypotheses, in October 2004 I began to plan how to carry out the current study. Initially I spoke to my research supervisor who suggested that I met with a former trainee whose doctoral research also involved recruiting, and administering a questionnaire to, a sample of parents and teachers from primary schools. An invaluable discussion took place regarding how to recruit the schools, increasing response rates and the difficulties that could be encountered when conducting research within the school environment.

With ideas about how to recruit my participants, I turned back to the literature with regards to how I was going to measure knowledge, attributions and help-seeking in a reliable and valid manner. The measures used in the current study were gathered from e-mailing international researchers who had carried out past studies accessing knowledge and causal attributions in the area of the ADHD. I was absolutely amazed with the responses I received. All of the authors replied and sent me their measures; answering any questions I had asked regarding their questionnaires. Some authors were even eager for cross-cultural comparisons to be made with the data that would be generated from the study.

Due to the exploratory nature of the study, the revised measures were initially piloted on a group of seven mothers and seven teachers who were personally known to me. This pilot study was an integral part of the designing stage as not only did it specify how many participants were required, and what statistical tests would be used in the analysis,

but it also highlighted any ambiguous or technical words that people in the general population, outside the world of psychology, would struggle with.

From this pilot study statistical advice was sought to determine how many participants would be required and to check whether my method and measures would answer the research questions that I was investigating. Gaining access to a statistician to support me with the statistical elements of the research was difficult, as most statisticians seemed to be only knowledgeable in medical research; however, advice was eventually sought from a statistician familiar with small-scaled psychological research studies.

With my measures adapted and the sample size determined, I quickly got onto putting my questionnaire together and devising my patient information sheets and consent forms. To make the questionnaires user-friendly, different fonts and brightly coloured paper was used to make them stand out and allow me to differentiate whether a mother or a teacher completed the questionnaire. Due to the short-time frame of the study and the number of participants required, an “opt-out” form was chosen as an alternative to a consent form as it was hypothesised that many participants would not return an actual consent form and that those who did not want to participate in the study would either return the opt-out slip or not complete the questionnaire. The use of opt-out forms is considered to be a reliable method of obtaining consent in health research (Fletcher & Hunter, 2003).

It is only from writing this section of the critical appraisal that I realised the sheer amount of planning that was involved in this study, something which at the time I just ploughed my way through without realising the vast quantity I was doing.

3.2. Obtaining ethical approval.

Submitting to ethics was a daunting task, with both trainees and lecturers being uninformed about the new forms and procedures. I began completing the COREC form to be told that as I was recruiting a non-clinical sample my study only had to be reviewed by the Leicestershire Partnership Trusts' Research and Development (R&D) Department. This process was simple and straightforward and the person from the R&D department was very helpful in ensuring that I completed the form correctly. In just a fortnight my study was granted ethical approval. In conjunction with applying for ethical approval from the Trust, the University of Leicester School of Psychology ethics committee also reviewed and granted approval for the study

3.3. Data Collection.

After receiving ethics approval I began recruiting participants. Initially I got a list of primary and junior schools from Leicester City Council, where information about the number, ages and ethnicity of the pupils enrolled in each school was obtained. Due to the short time-frame of the study, and with an aim to recruit as many mothers and teachers as possible, schools were accessed that had the highest number of pupils enrolled and were mixed in ethnicity. I wrote letters to the schools to introduce myself and the project I was carrying out. After a period of two weeks I telephoned the head teachers to ascertain whether they were interested in the school taking part and to arrange a meeting to discuss the study in more detail. Out of the 18 schools I had sent letters to, only six agreed to participate. The remaining twelve schools reported that they were too busy to allow me to come into the schools or failed to reply to the telephone messages that I left.

The meeting with the head teachers allowed me to gain important information, not only regarding the design of my questionnaires but about the experience of teaching children with ADHD in the school environment. Many of them reported that they felt parents were to blame for the child's difficulties and nearly all admitted that they had received little training about ADHD, although they were expected to deliver complex interventions to children who had been diagnosed with the disorder. As the schools were keen on collecting the book vouchers, reporting their school libraries to be under resourced, it was decided that I would sample the mothers of one Year 3 class from the first five schools I had recruited.

The data collection period began in September 2005. Initially the opt-out forms were sent out with an information sheet. Out of 278 participants sampled only 8 mothers and 2 teachers return the opt-out slips. Out of the 268 of participants sampled only 47% returned the questionnaires. From this response rate, it seems that the opt-out forms may have been a waste of time and money, as it appears that people who did not want to be involved in the study simply did not return the questionnaires, although this may have been due to other factors, i.e. being unable to answer questions, the length of questionnaire and possible language barriers.

Throughout this period I was worried about not receiving the amount of questionnaires back that I required, as the typical response rate for questionnaires is approximately 20% (Fife-Shaw, 1995). In December 2005 I was struggling to receive enough completed teacher questionnaires to achieve the sample size calculated for the study. This surprised me as I thought that teachers would have been more willing to return

questionnaires and receive vouchers for the school library. I re-contacted the schools and asked them to remind the teachers about the questionnaires, using my therapeutic skills to acknowledge the stress and busy working schedule involved in teaching. This led to a few more completed questionnaires but not enough. In January 2006 I recruited three more schools, with an aim of sampling teachers only, and after a couple of weeks I finally received the number of questionnaires that I required.

3.3.1. Barriers to data collection.

The data collection process went relatively smoothly once the schools had agreed to participate. Part way into the data collection period I began to worry that I would not receive the amount of questionnaires I required. The problem solving skills and determination I employed, i.e. re-contacting and recruiting new schools, prevented this fear becoming a reality.

Another difficulty that I encountered with the data collection process was the homogeneity of the participants involved. Nearly all of the participants returning the questionnaires were White-British, even though the majority of schools I selected were mixed in ethnicity. It made me question why people from ethnic backgrounds did not complete the questionnaires and wonder how I might have obtained a more representative population?

One of the biggest barriers I found to the data collection was the cost involved. Stamps, envelopes, letters, photocopying, incentives and travelling costs to the schools meant

that this was a costly study, requiring joint funding from the clinician acting as my field supervisor for this study.

3.3.2. Strategies to facilitate the data collection.

The current study used a number of methods in order to increase the response rates.

These have been methods that research has found to be effective in increasing response rates to questionnaires, such as; the use of coloured paper, shorter questionnaires; self-addressed envelopes and ensuring confidentiality (Edwards *et al.*, 2003). Firstly, I felt that using coloured paper was an effective way of facilitating the data collection process. Using brightly coloured paper was an attempt to make the questionnaires stand out amongst the letters that parents and teachers may receive on a weekly basis. The questionnaires themselves were designed to be user friendly and less daunting, by using different fonts, not having too much information on one page and using both sides of the pages. A self-addressed envelope was also used to increase participant response rates.

WHSmith book vouchers were felt to be the most effective strategy to be employed to increase the response rate. At first I was concerned that this incentive may have been seen as bribery, but this view was not reinforced by the Head Teachers that I met.

Many of the schools that participated in the study were eager to build up their school library whilst other schools did not seem to be bothered whether they received the vouchers or not.

3.3.3. Using mothers and teachers as research participants.

In hindsight I should have anticipated difficulties in recruiting mothers and teachers as research participants. Teaching is considered to be one of the most stressful and demanding professions (Van Dick & Wagner, 2001) and teachers may not have had the time or motivation to complete the questionnaires. This seems to be backed up by many of the schools that I contacted, and who refused to participate in the study, reporting that the teachers were very stressed and would not have the time to complete a questionnaire or hand out questionnaires to the parents. Lack of time or motivation may have been an issue for the mothers also, thus affecting their response rate.

3.4. Statistics.

The data analysis for the current study began in January 2006. Statistical advice was sought from a statistician attached to the course, who supported me with the initial planning of this study. The statistics used for this study were quite complex. Initially I intended to use multiple regression to analyse the relationships that existed between the independent variables and the dependent variables. However, because I had an important categorical variable included in the analysis, whether participants were mothers or teachers, the General Linear model (GLM) was considered to be the statistic most suitable for this study (Field, 2005). Prior to this study I had not come across this type of statistic and, therefore, made my self familiar with it through literature given to me by the statistician and researching this statistic on the internet and general statistics books (i.e. Field, 2005).

My contact with the statistician was invaluable. He not only taught me about the statistics I employed but also checked my results, gave me advice about writing up the data, and even proof read drafts that I sent to him. Throughout the course of the data analysis, the statistician supported me, and dealt with my anxieties and ignorance, in such a sensitive and supportive way.

3.5. Practical and ethical constraints of the study.

When conducting the research study I was aware that the study would be constrained by methodological limitations that would affect the results. As talked about earlier in this report, and in section 4.4 of the research report, attempts were made to access a diverse population of participants. My selection of schools was not entirely random, but as I was not from Leicester, and had never travelled to the city before beginning the course, I considered myself to be a ‘blind’ researcher. The majority of schools I accessed were varied in ethnicity (see Appendix B for school demographics), however, I received only 11 questionnaires from participants from minority-ethnic backgrounds. The reasons why so few many few people from minority-ethnic background returned the questionnaires can only be speculated. As ADHD is considered to be a clinical entity devised by western society (Diller, 2002), it may have been that parents from minority-ethnic backgrounds were not aware of this disorder or did not believe in its existence and, therefore, did not have the knowledge to complete the questionnaire. It could also be speculated that the bias in response rate obtained in this study reflects the ethnic bias of parents that seek help for children with mental health problems or who are referred to CAMHS, as UK studies have indicated that White-British mother are more likely to seek help from CAMHS than Asian-British mothers (Stein *et al.*, 1993).

When conducting this study, I was also struck by the questions it raised within me as both a researcher and a clinician. It made it me question whether ADHD exists or it is “normal” child behaviour unsuitable for modern day society and whether children as young as six years of age should be treated for ADHD using Ritalin. These questions I asked raised ethical issues for me, such as was my study reinforcing the medicalisation of ADHD?

3.6. Writing up.

I began writing up the thesis as soon as I could. An initial draft of my literature review was sent to my supervisors in February 2006. I quickly went on to write draft versions of all of the sections as soon as I could. The reasons why I started earlier than most people on my course was that I work better when I don't feel pressurised. My particular style of writing is to write drafts, re-read and sometimes re-write, adding in new ideas or new information that I arose from the literature. I also did not want to put pressure on my supervisors in presuming that they would be able to read information at the last minute.

I began taking research leave in January 2006, taking week off at a time. Although I felt this was the best option, by the end of the week blocks my motivation and brainpower lagged and I was glad get to go back to my placements for a rest! Other life events, such as supporting my partner in running a farm, and the constant stream of activities required in this (i.e. lambing, shearing, calving, etc.), meant that work in the evenings and weekends was almost impossible. Therefore, whilst on placement, my study days provided me with the only opportunity to continue writing the thesis up.

Even on these days motivating myself was difficult, as I was often tired from having to drive a 100 mile round trip to placement during the week and working on the farm before and after work.

Beginning the writing up process earlier has distinct advantages and disadvantages. The advantages have already been discussed, i.e. being less stressed and having more time and space to write up information. The availability of past theses was beneficial to allow me to check that I writing the study up in the 'right way'. Towards the end of this process, June 2006, it was difficult to maintain my motivation and reading through my draft versions, which had been changed several times, became an arduous task. Friends were helpful in praising me when I had completed each section of the thesis and my hobby of horse riding gave me a well-deserved rest from this process. Writing the critical appraisal at the end almost felt like a cathartic experience.

4. The supervisory process.

Supervision has been the most important and guiding aspect of the research experience. Meetings with my university and field supervisors occurred throughout the research process from specifying the research idea, designing the study, carrying it out and writing the study up. Arranging three-way meeting, with myself, my academic and field supervisor present, was often problematic as clinical and academic work for all parties concerned proved to be obstacles in finding the right time, place and location to hold these meetings.

Overall I found the supervisory process a positive experience. These meeting gave me an opportunity to draw upon the knowledge of two clinicians experienced both in the area of child mental health and also in conducting and supervising doctoral research studies. Supervision provided me with the means and support to discuss and overcome any problems and to continue to focus. Whilst in the stage of writing the thesis up my academic supervisor has been very supportive in reading the numerous draft versions I send him and identifying gaps in the reports or forwarding newly published articles.

5. Dissemination and implications of the findings.

From the beginning of this study I was determined to disseminate the findings of the research to both the schools who participated in this study and to clinicians involved in the diagnosis and treatment of ADHD. Written feedback has already been given to both the mothers and teachers that participated in the study and verbal feedback is in the process of being arranged.

I feel that results of my study have several important clinical implications not only for the design of services but also in the assessment and diagnosis of ADHD and other childhood disorders⁵. We, as clinicians, need to be aware that the parents and teachers we meet have often had a long and stressful journey when they present to our services. They often do not know what ADHD, or other childhood disorders are, obtaining their information from sources that are often biased or incorrect, i.e. the media.

Acknowledgement needs to be given to the explanations that parents and teachers hold for the causes of children's behaviour, as ignoring these often results in a waste of time

⁵ See section 4.5 of the research report.

for all parties concerned, i.e. non-adherence to treatment regimes (Wright *et al.*, 2000) and, as shown in the current study, may also affect whether parents seek help for a child displaying ADHD symptomatology. Research and governmental policies often invests resources in identifying the most ‘effective’ treatments for ADHD but ignores the social and cultural meanings given to this disorder. The results of this study indicate that child mental health professionals need to actively emphasise the influential role social-cognitions have in the area of ADHD, by educating parents, teachers and clinicians about the disorder, and acknowledging how these cognitions may influence assessment and treatment stages. Although not achieved in the current study, emphasis needs to be given to the role socio-economic status and culture plays in the way ADHD behaviours are perceived by parents and teachers and the role these factors have in parents’ decisions to seek help and the treatments they pursue. As a way of promoting this view of ADHD, and in attempt to try and change the clinical practice of professionals working in this area, the findings of this research study will be presented at the annual Child and Young People conference in September 2006.

6. Conclusions and learning Outcome.

The completion of this thesis has resulted in a substantial learning curve in both my academic and clinical career. Not only have valuable lessons been learnt regarding carrying out research in the ‘real world’ but also the results of my research have changed my clinical practice. I feel I have:

- Developed an ability to critically appraise both the methodology and theories behind research, through the process of writing the literature review. This critical appraisal

of studies has taught me how to identify gaps and shortcomings in research and develop future research ideas.

- Gained a deeper understanding about the practicalities, times and costs of carrying out a piece of research. My confidence in conducting quantitative studies and applying statistical procedures has also grown as a result. I have also realised the vast amount of planning, problem-solving and determination that is involved in carrying out research and the need to continue and develop my research skills post-qualification.
- Become aware of the difficulties inherent in using parents and teachers as participants and the need for methods to increase response rates, rather than relying on good will.
- Become more aware of the role knowledge and causal attributions play in the help-seeking process. In my clinical practice, during the assessment period, I am more curious to know how parents understand their child's problem, what they think caused their child's difficulties and what kinds of treatments do they think is required. Assessing parental attributions in therapeutic work could be achieved by asking parents to recall a recent problematic behaviour or situation using open-ended questions (Bugental *et al.*, 1998), to assess whether they believed the difficulties were due to the child's internal disposition, whether they perceived them as pervasive, stable or transient or outside the 'normal' range as depicted by both societal and cultural norms. By discussing parental expectations and the explanations they give for their child's difficulties, I feel a closer therapeutic

alliance is formed between parents and I, allowing any misconceptions and myths to be discussed.

- Developed a greater appreciation of the need of good supervision in research and professional advice from people experienced in the research area and statistics. Both of which I was lucky to experience.

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APPENDICES

APPENDIX A: Journal Specification.

Clinical Child Psychology and Psychiatry

INSTRUCTION TO AUTHORS

The Editor apologizes for the apparent pedantry of these instructions, but adherence to them will ensure rapid and efficient processing of your contributions, and will enhance the article itself.

Peer review process. The Editor will screen manuscripts for their overall fit with the aims and scope of the journal. Those that fit will be further reviewed by two or more independent reviewers. Papers will be evaluated by the Editorial Board and refereed in terms of merit, readability and interest. Unsolicited manuscripts will not be returned to the author.

Submission of MSS. Four copies of each manuscript, typed in double spacing throughout, and on one side only of white A4 or US standard size paper, and a copy on disk (preferably PC compatible) should be sent to the Editor at the address given below. All pages should be numbered. Email submissions are encouraged.

Format of MSS. Each manuscript should contain the following, in the correct order.

(a) Title page to include the title of the paper, full name of each author, current professional position and work context, and indicators of which author will be responsible for correspondence. A word count should also be included.

(b) Abstract: should not exceed 200 words (150 for preference); up to 5 key words to be listed alphabetically on the same page. This page should carry the title of the paper but not the author name(s).

(c) Main text: not usually to exceed 7500 words and to be clearly organized, with a clear hierarchy of headings and subheadings (3 weights maximum).

(d) References: Citation of references follows APA (American Psychological Association) style. References cited in the text should read thus: Brown (1955, pp. 63-64); (Brown, 1995, pp. 63-64; Green & Brown, 1992, p. 102, Table 3). The letters a, b, c, etc., should distinguish citations of different works by the same author in the same year (Black, 1989a, 1989b).

All references cited in the text should appear in an alphabetical list, after the Notes section.

(e) Figures, tables, etc.: should be numbered consecutively, carry descriptive captions and be clearly cited in the text. Keep them separate from the text itself, but indicate an approximate location on the relevant text page. Line diagrams should be presented as camera-ready copy on glossy paper (b/w, unless to be reproduced - by arrangement - in colour) and, if possible, on disk as EPS files (all fonts embedded) or TIFF files, 800 dpi - b/w only. For scanning, photographs should preferably be submitted as clear, glossy, unmounted b/w prints with a good range of contrast or on disk as TIFF files, 300 dpi.

(f) Author biographies: On a separate sheet provide a one-paragraph biobibliographical note for each author - up to 100 words for a single author, but none to exceed 65 words in a multi-authored paper.

Style. Use a clear and readable style, avoiding jargon. If technical terms must be included, define them when first used. Use plurals rather than he/she, (s)he, his or hers: 'If a child is unhappy, he or she. . .' is much better expressed as 'When children are unhappy, they. . .'. . .

Spelling. British or American spellings may be used ('z' versions of British spellings preferred to 's' versions, as given in the Oxford English Dictionary).

Punctuation. Use single quotation marks, with double inside single. Present dates in the form 9 May 1996. Do not use points in abbreviations, contractions or acronyms (e.g. DC, USA, DR, UNESCO).

Covering letter. Attach to every submission a letter confirming that all authors have agreed to the submission and that the article is not currently being considered for publication by any other journal. The name, address, telephone and fax number and email address of the corresponding author should always be clearly indicated.

APPENDIX B: Demographics of participating schools.

Demographic data for the nine presenting schools as compared to local education authority (LEA) averages⁶.

	School 1	School 2	School 3	School 4	School 5	School 6	School 7	School 8	School 9	LEA Average
Total No of pupils	232	363	429	233	393	407	274	219	247	300
% Free school meals	41.6	5	14	36	10	37	3	5	11	28.9
% English as an additional language	15.3	10	6.8	42.5	6.4	11.7	0	0	5	42.6
% Special Educational Needs	28.5	10	19	21	19	37	17	24	19	23.6

⁶ Information gathered through Personal communication with the Statistics & data team, Education department, Leicester City Council, February 2005.

Parent's understanding of Attention Deficit Hyperactivity Disorder (ADHD).

Part A: Demographics

1. Which age group do you fall into? (please tick) :

Under 20☐ 20-30☐ 31-40☐ 41-50☐ over 50☐

2. Please describe your current occupation

3. How would you describe your Ethnicity? (please tick)

- ☐ White/European.
- ☐ Mixed: white/Asian.
- ☐ Mixed: white/black Caribbean or African
- ☐ Asian or Asian British (Indian, Pakistani, Bangladeshi)
- ☐ Black or Black British (Caribbean, African, other
- ☐ Other (please state) _____

4. Please describe your marital status (e.g. single, divorced, married etc)

5. How many children do you have?

6. Have you heard of ADHD? Yes ☐ No ☐

Please specify where you have heard about ADHD (tick as many as required):

- ☐ TV (film/TV/soap/documentary)
- ☐ Newspaper
- ☐ Teachers
- ☐ Information leaflets
- ☐ Internet
- ☐ Other: please specify-----

Part B: Knowledge of ADHD.

Please answer the following questions regarding Attention-Deficit/Hyperactivity Disorders (ADHD). If you are unsure of an answer please respond Don't Know (DK). Please answer True (T), False (F), or Don't Know (DK) (circle one):

- | | | | | |
|-----|---|---|----|--|
| 1. | T | F | DK | Most estimates suggest that ADHD occurs in approximately 15% of school age children. |
| 2. | T | F | DK | Current research suggests that ADHD is largely the result of ineffective parenting skills. |
| 3. | T | F | DK | ADHD children are frequently distracted by external noises and events. |
| 4. | T | F | DK | ADHD children are typically more compliant with their fathers than with their mothers. |
| 5. | T | F | DK | In order to be diagnosed with ADHD, the child's symptoms must have been present before 7 years of age. |
| 6. | T | F | DK | ADHD is more common in close family members (i.e. mother, father) of children with ADHD than in the general population. |
| 7. | T | F | DK | One symptom of ADHD children is that they have been physically cruel to other people. |
| 8. | T | F | DK | Antidepressant drugs have been effective in reducing symptoms for many ADHD children. |
| 9. | T | F | DK | ADHD children often fidget or squirm in their seats. |
| 10. | T | F | DK | Parent and teacher training in managing an ADHD child are generally effective when combined with medication treatment. |
| 11. | T | F | DK | It is common for ADHD children to have an inflated sense of self-esteem. |
| 12. | T | F | DK | When treatment of an ADHD child is terminated, it is rare for the child's symptoms to return. |
| 13. | T | F | DK | It is possible for an adult to be diagnosed with ADHD. |
| 14. | T | F | DK | ADHD children often have a history of stealing or destroying other people's things. |
| 15. | T | F | DK | Side effects of stimulant drugs used for treatment of ADHD may include mild insomnia (sleep problems) and appetite reduction. |
| 16. | T | F | DK | Current wisdom about ADHD suggests there are two clusters of symptoms: one of inattention and another consisting of hyperactivity/impulsivity. |
| 17. | T | F | DK | Symptoms of depression are found more frequently in ADHD children than in non-ADHD children. |
| 18. | T | F | DK | Individual psychotherapy is usually sufficient for the treatment of most ADHD children. |
| 19. | T | F | DK | Most ADHD children "outgrow" their symptoms by the onset of puberty and subsequently function normally in adulthood. |

Please answer True (T), False (F), or Don't Know (DK) (circle one):

20. T F DK In severe cases of ADHD, medication is often used before other behavior modification techniques are attempted.
21. T F DK In order to be diagnosed as ADHD, a child must exhibit symptoms in two or more settings (e.g., home, school).
22. T F DK If an ADHD child is able to demonstrate sustained attention to video games or TV for over an hour, that child is also able to sustain attention for at least an hour of class or homework.
23. T F DK Reducing dietary intake of sugar or food additives is generally effective in reducing the symptoms of ADHD.
24. T F DK A diagnosis of ADHD by itself makes a child eligible for additional educational support.
25. T F DK Stimulant drugs are the most common type of drug used to treat children with ADHD
26. T F DK ADHD children often have difficulties organizing tasks and activities.
27. T F DK ADHD children generally experience more problems in new situations than in familiar situations.
28. T F DK There are specific physical features which can be identified by medical doctors (e.g. pediatrician) in making a definitive diagnosis of ADHD.
29. T F DK In school age children there are as many boys as girls who suffer from ADHD
30. T F DK In very young children (less than 4 years old), the problem behaviors of ADHD children (e.g. hyperactivity, inattention) are distinctly different from age-appropriate behaviors of non-ADHD children.
31. T F DK Children with ADHD are more distinguishable from normal children in a classroom setting than in a free play situation.
32. T F DK The majority of ADHD children show some degree of poor school performance in the primary school years.
33. T F DK Symptoms of ADHD are often seen in children without ADHD who come from inadequate and chaotic home environments.
34. T F DK Behavioral/Psychological interventions for children with ADHD focus primarily on the child's problems with inattention.
35. T F DK Electroconvulsive Therapy (i.e. shock treatment) has been found to be an effective treatment for severe cases of ADHD.
36. T F DK Treatments for ADHD which focus primarily on punishment have been found to be the most effective in reducing the symptoms of ADHD.

Part C: Thinking about children's behaviour.

I would like you to read two short descriptions describing a seven-year-old child (child X) and answer questions about each of them.

Several of the questions reflect judgments people often make when looking for an explanation for why a child behaved as he/she did. For example, suppose you are walking down the street one day and see a child fall down. In such a situation, you would probably wonder why this child fell down. Did he or she fall because of feeling faint or dizzy (something about the child), or was it because of something about the situation, perhaps there was a crack in the pavement. You might also wonder whether the child could help falling, for example, did he or she fall because of showing off trying to walk backwards (cause was within the child's control), or was the action caused by something beyond the child's control. You could judge whether the cause for falling was something that occurred in only this one situation, for example the child had just stepped in water that made his or her shoes slippery, or whether the cause would occur in many situations, for example the child has a physical disability. You could also make a judgment as to whether the reason for the fall was a one time thing or something that will happen again in the future.

We realize that there can be many things that influence behaviour at any one time, and acknowledge that it can be difficult to make these types of judgments. Please answer the following questions on the brief descriptions that follow. Remember, there are no right or wrong answers, and if you have difficulty judging, just go with your first impression.

Please remember to read each description and try to vividly imagine this child in the scenario.

Description 1.

Child X, aged seven, is often told off by the teacher for not paying attention in class. The teacher says that the child does not listen when she speaks to him/her, and has noticed that s/he finds it difficult to follow through on instructions. The child rarely finishes his/her schoolwork, and on the few occasions that s/he has finished the work, it is has been full of careless mistakes. The child is easily distracted by what is going on around him/her, such as what other children are doing. S/he often acts without thinking and finds it hard to pay attention for any significant amount of time - both in his/her schoolwork and when playing. Hence, s/he often avoids tasks that require sustained mental effort (such as schoolwork and homework). The child has difficulty organising tasks and activities, and frequently loses the things s/he needs to complete his/her work (e.g., school assignments, pencils, books), and is often forgetful in daily activities.

This child displays the same behaviours at home.

Please answer the following nine questions: circling the number on the scales provided for each question.

1. How much of a problem do you feel these behaviours were?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
Not at all Very Much

2. To what extent was this child's behaviours caused by something within the child rather than something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
something about other Something about the
people/the situation child

3. To what extent were this child's behaviours within their control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
completely within his or her control not at all within his or her control

4. To what extent was this child’s behaviour something that could happen in many situations or is it something that just occurs in this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
Just occurs in this situations Happens in many situations

5. To what extent was this child’s behaviour “a one time” thing or is it something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
a one time thing will happen again in the future

6. To what extent was the parent responsible for this child's behaviours?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
not at all responsible very much responsible

7. To what extent was the teacher responsible for this child's behaviours?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
not at all responsible very much responsible

8. To what extent would you seek help if this was your child displaying these behaviours?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
very Unlikely to seek help very likely to seek help

Description 2.

At home, child X is "always on the go" and constantly fidgets. The child runs about or is climbing all the time even in situations where it is not appropriate or when they are supposed to remain seated (i.e. in the cinema). The child often has difficulties taking turns, talks excessively and often interrupts when their parent is talking to other people. This child displays the same behaviours at school.

Please answer the following eight questions: circling the number on the scales provided for each question.

1. How much of a problem do you feel these behaviours were?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
Not at all Very Much

2. To what extent was this child's behaviours caused by something within the child rather than something about other people or the situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
something about other something about the
people/the situation child

3. To what extent were this child's behaviours within their control?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
completely within not at all within
his or her control his or her control

4. To what extent was this child's behaviour something that could happen in many situations or is it something that just occurs in this situation?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
Just occurs happens in
In this situation many situations

5. To what extent was this child's behaviour "a one time" thing or is it something that is likely to happen again in the future?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
a one time again thing will happen in the future

6. To what extent was the parent responsible for this child's behaviours?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
not at all very much
responsible responsible

7. To what extent was the teacher responsible for this child's behaviours?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
not at all very much
responsible responsible

8. To what extent would you seek help if this was your child displaying these behaviours?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10
 very Unlikely to seek help very likely to seek help

Thank you for completing this questionnaire.

APPENDIX D: Teacher demographic section and vignette.

School code:

Teacher's understanding of Attention Deficit
Hyperactivity Disorder (ADHD).

Part A: Demographics

1. Which age group do you fall into? (please tick) :

Under 20☐ 20-30☐ 31-40☐ 41-50☐ over 50☐

2. How would you describe your Ethnicity? (please tick)

- ☐ White/European.
- ☐ Mixed: white/Asian.
- ☐ Mixed: white/black Caribbean or African
- ☐ Asian or Asian British (Indian, Pakistani, Bangladeshi)
- ☐ Black or Black British (Caribbean, African, other
- ☐ Other (please state) _____

3. How many years have you been teaching?

4. Have you heard of ADHD? Yes ☐ No ☐

Please specify where you have heard about ADHD (tick as many as required):

- ☐ TV (film/TV/soap/documentary)
- ☐ Newspaper
- ☐ Teachers
- ☐ Information leaflets
- ☐ Internet
- ☐ Other: please specify-----

5. How you had any contact with children diagnosed with ADHD?

Yes ☐ No ☐

If yes (a) How many have you taught in the past?

(b) When was the last time you taught such a child?

6. Have you had much contact with specialists such as Psychiatrists, Clinical psychologists, Educational psychologists and Paediatricians, with regards to diagnosing, treating and managing ADHD?

Yes ☐ No ☐

7. Have you ever helped in the process of diagnosing ADHD?

Yes ☐ No ☐

Please describe; _____

8. During teacher training were you taught about ADHD?

Yes ☐ No ☐

9. Have you received any additional training (i.e. course, staff training) regarding ADHD since you began teaching?

Yes ☐ No ☐

Please describe _____

10. Do parents frequently ask you advice about ADHD?

Yes ☐ No ☐

Description 2: Teacher version

In class, child X (aged seven) is "always on the go", constantly fidgets. The child runs about or is climbing all the time even in situations where it is not appropriate or when they are supposed to remain seated (i.e. in lessons).

He has difficulties taking turns, talks excessively and often interrupts when the teacher is talking to other people or children.

This child displays the same behaviours at home.

Appendix E: Changes made to the Knowledge of Attention Deficit Disorder Scale (KADDS; Scuitto & Terjessen 2004).

Item No.	Original KADDS* item	Amended KADDS* item for UK population.
2	“extraneous stimuli”	“external noises and events”
5	“before age 7”	“before 7 years of age”
6	“ADHD is more common in 1st degree biological relatives”	“ADHD is more common in close family members”
11	“grandiosity”	Word “grandiosity” taken out.
15	“Insomnia”	Insomnia explained by adding (sleep problems) next to the word.
24	“placement for special education”	“additional educational support”
27	“novel”	“new”
29	“In school –aged children, the prevalence of ADHD in males and females is equivalent.	“In school-aged children there are as many boys as girls who suffer from ADHD”
32	“evidence”	“show”

* KADDS refers to The Knowledge of Attention Deficit Disorder Scale

APPENDIX F: Revisions made to the Written Analogue Questionnaire rating scale.

Dimension	Original WAQ question	Amended version
Locus	To what extent was your child's behaviour caused by something about him or her versus something about other people or the situation?	To what extent was this child's behaviours caused by something within the child rather than something about other people or the situation?
Globality	To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?	To what extent was this child’s behaviour something that could happen in <u>many</u> situations or is it something that <u>just occurs</u> in this situation?
Stability	To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?	To what extent was this child’s behaviour “a one time” thing or is it something that is likely to happen again in the future?

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Daisy Peake Building
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DC/JH/CHAF0376

10 June 2005

Ms Jo Horton
Trainee Clinical Psychologist
C/o Dept. of Clinical Psychology
University of Leicester
104 Regent Road
Leicester
LE1 7LT

Dear Jo

Re: Help-seeking behaviours in ADHD: The effects of knowledge and causal attributions on the help-seeking behaviours of parents and teachers in the general population.
[Trust Ref: CHAF0376]

Thank you for submitting details of the above study for the consideration of the Research Governance Review Group of the Trust. I have received no objections from any member of the review group, and am therefore happy to confirm that you have formal Trust Approval to pursue the study. As previously discussed, as the population to be investigated in this study is outside the remit of Health Research Ethics Committees it does not require further ethical approval.

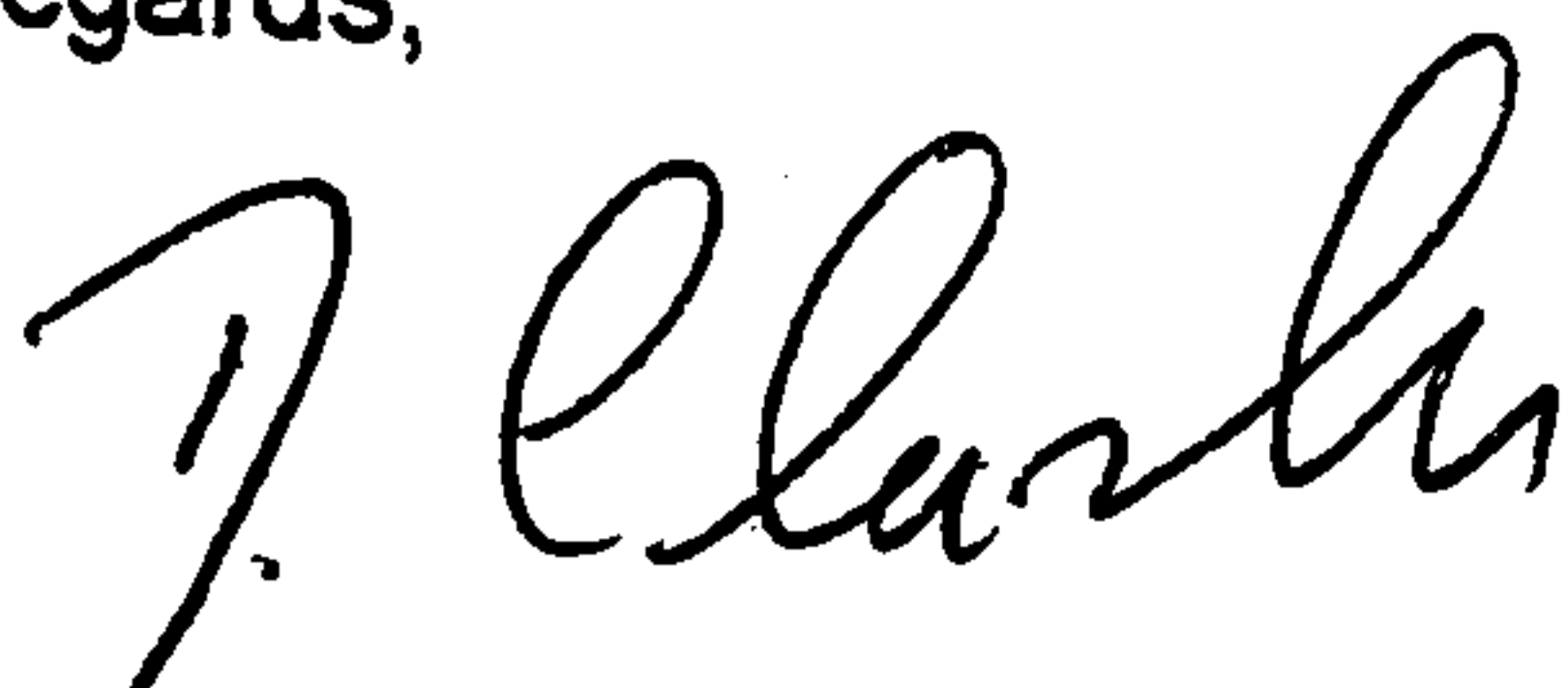
Under the Research Governance Policy of the Trust, confirmation of appropriate ethical approval is a necessary prerequisite for obtaining Trust Management Approval. Following a detailed risk assessment, I am happy to confirm therefore that as joint-sponsor of this research, Leicestershire Partnership NHS Trust formally approves the study to proceed, subject to the following conditions:

- The agreed protocol is adhered to.
- A summary of any findings is reported to the Trust/Clinical Service/Participants at the conclusion of the study.
- Any changes in the protocol, timescale etc. are notified to the R&D Office
- At the conclusion of the study, a final report form is completed.
- A copy of any subsequent publication is lodged with the Trust.
- That paperwork related to the study may be subject to audit at any time (this requires maintenance of a site file).

This letter also serves as confirmation that as Principal Investigator you are covered by the terms of the Trust's research indemnity for the duration of the project.

Please sign and return the attached confirmation. With best wishes on the success of your study.

Regards,



Dr. Dave Clarke
Associate Director (R&D)

APPENDIX H: University of Leicester School of Psychology ethics approval.

(Received via e-mail on 04/07/2005)

Dear Johan

Your project (Help-seeking behaviours in ADHD: The effects of knowledge and causal attributions on the help-seeking behaviours of parents and teachers in the general population) has been approved by the School of Psychology Ethics Committee.

Please keep a copy of this e-mail as proof of acceptance and for your records.

We wish you every success with your study.

Andrew M. Colman
Chair of Ethics Committee

APPENDIX I: Participant Information Sheet.

On university headed paper

Version 3: 08/08/2005

Information sheet

Parents and teachers understanding of Attention Deficit Hyperactivity Disorder (ADHD).

Principal researcher: Johan Horton (Trainee Clinical Psychologist)

Contact Details: Department of Clinical Psychology, 104 Regents Road, Leicester. LE1
7LT

Telephone: (0116) 223 1639.

Your school is invited to take part in the above research project. I am currently completing my training to become a Clinical Psychologist, at the University of Leicester. As part of my training I am carrying out a project that looks at parents and teachers understanding of ADHD. To help you decide whether you would like to take part in the study I have included answers to some of the more frequently asked questions.

Frequently asked questions.....

Q1. WHAT IS THE PURPOSE OF THE STUDY?

Research has shown that many people do not seek help for children who show behaviours consistent with a diagnosis of ADHD. Many conflicting theories have been developed to understand what causes ADHD and how to treat it. This study aims to look at what people in the general population know about ADHD, the explanations they give for child's behaviour and whether they would seek help for ADHD behaviours.

Q2. WHAT WILL HAPPEN IF THE SCHOOL TAKES PART?

Female members of staff and parents will be asked to complete a questionnaire. Within this questionnaire you will be asked about what you know about ADHD. This questionnaire also contains two descriptions of a child's behaviour and asks for your opinions and explanations about the causes of this child's behaviour.

It is important to note that this questionnaire is not designed to assess your competence or efficiency as a teacher or as a parent!

Q3. WHAT ARE THE DISADVANTAGES OF TAKING PART?

You will be required to complete one questionnaire, which will take approximately 10 minutes to complete. This study aims to get your opinions; it is not designed in any way to interfere with your physical or psychological well-being. However if you find yourself troubled by any aspect of this study, please do not hesitate to contact me on the above telephone number.

Q4. WHAT ARE THE ADVANTAGES OF TAKING PART?

The results of the study will add to the growing body of knowledge about ADHD. There has been relatively little research about the knowledge and beliefs about the causes of ADHD in the general population. Therefore the results of this study will help to identify the possible reasons why people do not seek help for children who present with ADHD behaviours.

For each completed questionnaire, a £2 WHSmith Voucher will be given to the school library.

Q5. WILL THE INFORMATION OBTAINED IN THE STUDY BE CONFIDENTIAL?

There will be no identifying information on the questionnaires and all the results will be anonymous and confidential. The school will not be mentioned in the final thesis and subsequent publications.

Q6. WHAT WILL HAPPEN TO THE RESULTS OF THE RESEARCH STUDY?

For participating schools, the results of this study will be provided in a written feedback for all the parents and teachers participating in this study. The results will be written up as part of a thesis for a doctorate in clinical psychology and submitted to a journal for other professionals to read and expand their professional development.

Q7. WHAT HAPPENS IF YOU WISH / DO NOT WISH TO PARTICIPATE IN THIS STUDY?

Attached to this information sheet is a consent form. If you **do not** want to participate in this study please complete the consent form and return it back to school for me to collect. Your initials will be taken off the list and you will not receive a questionnaire.

.

If you wish to withdraw from you may do so at any point without justifying your decision.

Thank you for taking the time to read this, please contact me if you have any questions. You will be given a copy of the information sheet and consent form to keep.

APPENDIX J: Head Teacher Consent Form.

On university headed paper

Study Title: Help-seeking behaviours: The role of knowledge and attributions on the help-seeking behaviours of parents and teachers in the general population.

Principal researcher: Johan Horton (0116 223 1639).

- I have read and understood the Information sheet for the above study and have had the opportunity to discuss the details with **Johan Horton** (Principal Researcher) and ask any questions. The nature and the purpose of the study to be undertaken have been explained to me and I understand what will be required if the school takes part in the study.
- I understand that I may withdraw from the study at any time without justifying my decision.
- I understand that all of the information will be treated as confidential.
- On behalf of the school governors, I agree to take part in the above study as described in the **information sheet**

✓ / ✗

Name of school

Date

Signature of Head Teacher.

Name of Principle researcher
Researcher.

Date

Signature of Principle

APPENDIX K: Teacher Opt-out form.

On university headed paper

Dear Teacher,

Re: Parents and teachers understanding of Attention Deficit Hyperactivity Disorder (ADHD).

NB: This form should be read in conjunction with the Participant Information Sheet.

You are invited to take part in a research project funded by the University of Leicester. If you agree to take part you will be asked to complete a questionnaire. This questionnaire asks you about what you know about ADHD and also asks you to give explanations for the causes of a number of child behaviours that described in two short stories. An information sheet with more details of this study is also provided with answers to some of the frequently asked questions.

There will be no identifying information in the questionnaire and all results will be anonymous and confidential. For each completed questionnaire, the school library will receive a £2 WHSmith voucher. The school will not be mentioned by name in the final thesis and subsequent publications. The findings of this project will be disseminated at the end of this project.

If you **do not** wish to take part in the above study please complete the slip and return it to the Head teacher in the envelope provided as soon as possible and at the latest by **(DATE)**. Your name will be taken off the list and you will not receive any questionnaire. You will not be asked the reasons behind your decision.

*If you are happy to participate **do not** return this slip.* You will automatically receive the questionnaires.

Many thanks for your help and participation.
Yours Sincerely

Johan Horton
Trainee Clinical Psychologist
University of Leicester

Teacher opt-out slip:
I do not want to take part in the research project.

School code:

Your Name:

APPENDIX L: Mother Opt-out form.

On university headed paper

Dear Parent/Guardian,

Re: Parents and teachers understanding of Attention Deficit Hyperactivity Disorder (ADHD).

NB: This form should be read in conjunction with the Participant Information Sheet.

The Head teacher has agreed for (the name of the school) to take part in a research project funded by the University of Leicester. If you agree to take part you will be asked to complete a questionnaire. This questionnaire asks you about what you know about ADHD and also asks you to give explanations for the causes of a number of child behaviours that described in two short stories. An information sheet with more details of this study is also provided with answers to some of the frequently asked questions.

There will be no identifying information in the questionnaire and all results will be anonymous and confidential. For each completed questionnaire, the school library will receive a £2 WHSmith voucher. The school will not be mentioned by name in the final thesis and subsequent publications. The findings of this project will be fed back at the end of this project.

If you **do not** wish to take part in the above study please complete the slip and return it to the Head teacher in the envelope provided as soon as possible and at the latest by **(DATE)**. Your name will be taken off the list and you will not receive a questionnaire. You will not be asked the reasons behind your decision.

*If you are happy to participate **do not** return the slip below.* You will automatically receive the questionnaire.

Many thanks for your help and participation.
Yours Sincerely

Johan Horton
Trainee Clinical Psychologist
University of Leicester

Parent opt-out slip:
I do not want to take part in the research project.

School code:

Your Name:

APPENDIX M: Written feedback for participants.

On university headed paper

Dear Parent/Teacher

Re: Parents and teachers understanding of Attention Deficit Hyperactivity Disorder (ADHD).

Many thanks for taking part in the above study. You may recall completing a questionnaire, which asked you about what you know about ADHD. This questionnaire also presented to you the story about an imagined child who displayed inattentive and hyperactive behaviours; you were asked to say what you thought caused these behaviours.

This study aimed to find out what parents and teachers know about the causes of ADHD and whether their knowledge influenced whether or not they would seek help for a child with the symptoms of ADHD. I was also interested to find out whether mothers and teachers differ in their knowledge about ADHD and whether they have different explanations for its causes.

The reason I asked you to do this was because past surveys suggest that many parents do not seek help for a child showing the first signs of ADHD. But then, if a child is to be diagnosed with ADHD, a parent or teacher has to ask for help. Someone has to recognise the child's difficulties. Very often, it is the teachers who provide the support and guidance for parents, prompting parents to seek help. It is against this background that the research was designed to find out what may influence parents and teachers in their decision to seek further professional help.

Results of the study

The study found that it is when parents and teachers believe that particular behaviours are a problem that they are more likely to seek help for a child with symptoms of ADHD. The study also found that teachers reported hyperactive behaviours to be more of a problem than parents and that they are more likely to seek help for a child who displays hyperactive behaviours than if a child displays difficulties with concentration. Parents, on the other hand, are more likely to see concentration difficulties as the problems that would cause them to seek help.

There seem to be a number of reasons for these results. It is likely that hyperactive behaviours are more disruptive and noticeable for teachers in the classroom setting, whilst inattentive behaviours go unnoticed. In contrast, parents see concentration difficulties as more of an issue when a child is at home; perhaps, difficulties in getting children to do their homework may raise concerns about the child's future academic success, career and so on.

The study also found that when parents and teachers see ADHD as a medical condition, which comes from within the child, is uncontrollable and lasts over time, then they are much more likely to seek help. Parents and teachers have about the same levels of knowledge about ADHD and there were no apparent differences in what they have learned about the causes and cures of this troubling difficulty of childhood.

Conclusions.

The findings of this research have highlighted any differences that there are in what parents and teachers know about ADHD. It is also plain from the study that a medical explanation of ADHD is widely accepted, a view that is often portrayed in the media. Perhaps, the reason why parents and teachers seem reluctant to seek help for ADHD is explained by quite low levels of knowledge about this distressing problem of childhood.

The final results of this study will be written up as part of a thesis for a Doctorate in Clinical Psychology.

If you have any comments or would like more details about the research please contact me on 0116 223 1639.

Many thanks again for your participation.

Yours sincerely

Jo Horton
Trainee Clinical Psychologist
University of Leicester

APPENDIX N: Relationship between variables.

Correlation matrix for inattentive behaviours (Vignette 1): Parent sample.

	KADDS	Problem percept	Locus	Control	Globality	Stability	Help seeking
KADDS	1.00						
Problem perception	$r=.232$ $p=.070$	1.00					
Locus	$r=.132$ $p=.305$	$r=.308^*$ $p=.015$	1.00				
Control	$r=.208$ $p=.104$	$r=.302^*$ $p=.017$	$r=.044$ $p=.734$	1.00			
Globality	$r=-.003$ $p=.983$	$r=.264^{**}$ $p=.038$	$r=.411^{**}$ $p=.001$	$r=-.028$ $p=.828$	1.00		
Stability	$r=.288^*$ $p=.023$	$r=.574^{**}$ $p=.000$	$r=.111$ $p=.390$	$r=.461^{**}$ $p=.000$	$r=.385^{**}$ $p=.002$	1.00	
Help- seeking	$r=.281^*$ $p=.027$	$r=.435^{**}$ $p=.000$	$r=.267^*$ $p=.036$	$r=.457^{**}$ $p=.000$	$r=.130$ $p=.315$	$r=.462^{**}$ $p=.000$	1.00

NB: * $p<0.05$; ** $p<0.01$

Correlation matrix for inattentive behaviours (Vignette 1): Teacher sample.

	KADDS	Problem percept	Locus	Control	Globality	Stability	Help seeking
KADDS	1.00						
Problem percept	$r=.176$ $p=.148$	1.00					
Locus	$r=.239^*$ $p=.048$	$r=.232$ $p=.055$	1.00				
Control	$r=.299^*$ $p=.013$	$r=.374^{**}$ $p=.002$	$r=.235$ $p=.052$	1.00			
Global	$r=.122$ $p=.319$	$r=.239^*$ $p=.048$	$r=.123$ $p=.313$	$r=.197$ $p=.104$	1.00		
Stability	$r=.236$ $p=.050$	$r=.461^{**}$ $p=.000$	$r=.159$ $p=.193$	$r=.119$ $p=.330$	$r=.604^{**}$ $p=.000$	1.00	
Help- seeking	$r=-.292^{**}$ $p=.015$	$r=-.203$ $p=.095$	$r=-.307^*$ $p=.010$	$r=-.364^{**}$ $p=.002$	$r=-.127$ $p=.300$	$r=-.177$ $p=.146$	1.00

NB: * $p<0.05$; ** $p<0.01$

Correlation matrix for hyperactive-impulsive behaviours (Vignette 2): Parent sample.

	KADDS	Problem percept	Locus	Control	Globality	Stability	Help seeking
KADDS	1.00						
Problem perception	$r=.115$ $p=.373$	1.00					
Locus	$r=.104$ $p=.421$	$r=.241$ $p=.059$	1.00				
Control	$r=.063$ $p=.628$	$r=.351^{**}$ $p=.005$	$r=.145$ $p=.261$	1.00			
Globality	$r=.130$ $p=.313$	$r=.395^{**}$ $p=.001$	$r=.516^{**}$ $p=.000$	$r=.324^{*}$ $p=.010$	1.00		
Stability	$r=.226$ $p=.078$	$r=.584^{**}$ $p=.000$	$r=.275^{*}$ $p=.031$	$r=.329^{**}$ $p=.009$	$r=.547^{**}$ $p=.000$	1.00	
Help-seeking	$r=.176$ $p=.170$	$r=.504^{**}$ $p=.000$	$r=.281^{*}$ $p=.000$	$r=.470^{**}$ $p=.001$	$r=.198$ $p=.124$	$r=.558^{**}$ $p=.000$	1.00

NB: * $p<0.05$; ** $p<0.01$

Correlation matrix for hyperactive-impulsive behaviours (Vignette 2): Teacher sample.

	KADDS	Problem perception	Locus	Control	Globality	Stability	Help seeking
KADDS	1.00						
Problem percept	$r=.032$ $p=.792$	1.00					
Locus	$r=.206$ $p=.090$	$r=.363^{**}$ $p=.002$	1.00				
Control	$r=.288^{**}$ $p=.016$	$r=.080$ $p=.512$	$r=.210$ $p=.084$	1.00			
Globality	$r=.196$ $p=.107$	$r=.569^{**}$ $p=.000$	$r=.481^{**}$ $p=.000$	$r=.177$ $p=.145$	1.00		
Stability	$r=.130$ $p=.286$	$r=.383^{**}$ $p=.001$	$r=.555^{*}$ $p=.000$	$r=.222$ $p=.067$	$r=.498^{**}$ $p=.000$	1.00	
Help-seeking	$r=.165$ $p=.174$	$r=.640^{**}$ $p=.000$	$r=.340^{**}$ $p=.004$	$r=.151$ $p=.217$	$r=.580^{**}$ $p=.000$	$r=.354^{**}$ $p=.003$	1.00

NB: * $p<0.05$; ** $p<0.01$

APPENDIX O: Results of univariate analyses.

The relationships between the “Predictor Variables” and Help-seeking for Inattentive behaviours

Predictor Variables	F Value	P-Value	R ² (Effect size)
KADDS	5.096	.026*	.122
Problem perception	59.887	.000**	.378
Locus	.171	.680	.088
Controllability	9.366	.003**	.149
Globality	.222	.639	.088
Stability	25.253	.000**	.237

*p<0.05; **p<0.01

R² = small effect size (R²=0.02), a medium effect size (R²=0.13) and a large effect size (R²=0.26).

Results of Univariate analyses for hyperactive-impulsive behaviours:

The relationships between the “Predictor Variables” and Help-seeking for Hyperactive-Impulsive behaviours.

Predictor Variables	F Value	P-Value	R squared
KADDS	3.005	.085	.111
Problem perception	60.130	.000**	.381
Locus	4.633	.033*	.122
Controllability	22.395	.000**	.225
Globality	4.866	.029*	.123
Stability	13.309	.000**	.204

*p<0.05; **p<0.01

R² = small effect size (R²=0.02), a medium effect size (R²=0.13) and a large effect size (R²=0.26).